THE VETERINARY RECORD

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 14. APRIL 6, 1946 VOL. 58.

Further Observations on the Incidence of Parasitic Aneurysm in the Horse

by

C. W. OTTAWAY (Department of Anatomy)

and

MYRA L. BINGHAM (Division of Parasitology)

ROYAL VETERINARY COLLEGE

There can be few conditions which, in the course of time, have received so much attention from the veterinarian or have caused such heavy losses as redworm of horses.

The eradication of strongylosis requires that one of two conditions be fulfilled. Measures must be taken either to prevent the causal parasite from gaining entrance to the host's body or, if admission is gained, to kill the invader. Considerable progress has been made with both these measures, of which the proper control of grazing and the introduction of new anthelmintics are but two examples. Nevertheless, much remains to be done and the main problem still to be resolved is to obtain a more complete knowledge of the life-cycle of *Strongylus vulgaris*; this will be achieved only when experiments have been carried out using live animals.

Rather than to emphasize the *presence* of parasitic aneurysms containing *S. vulgaris* larvae as being of great significance, for they are so commonly found about the origin of the anterior mesenteric artery as almost to represent the normal state of that vessel, we wish to draw attention primarily to the widespread nature of this lesion, which we believe to be associated with the life cycle of *S. vulgaris*.

MATERIALS AND METHODS

In the main the subjects used for this investigation were dissection ponies at the Royal Veterinary College. Although 119 ponies have been examined since 1937, prior to 1940 the examination was restricted to noting the presence or absence of an aneurysm about the root of the anterior mesenteric artery. This paper deals, therefore, only with the 78 cases examined during the period 1941-45, some of which have been reported in previous papers (Ottaway and Bingham, 1941, Ottaway and Bingham, 1942). In addition, through the co-operation of Mr. G. P. Male, we have been able to conduct *post-mortem* examinations on four animals (one thoroughbred, one hunter and two shires). We have also examined material from a racehorse, and specimens submitted by Messrs. J. F. D. Tutt (Bingham, 1943), J. H. L. Addis, and Martin Senior (Bingham, Ottaway and Senior, 1943). Of this total of 87, 83 horses were affected wtih parasitic aneurysms.

All the 78 ponies were seen *ante mortem*, their physical condition and age being noted. Blood smears were made and samples of faeces taken. In most cases a rectal examination was made to detect the presence of aneurysm about the origin of the anterior mesenteric artery.

The tissues of all animals were examined and parasitological findings recorded either during the course of dissection or at autopsy. With the exception of those seen at *post-mortem* examination, all the tissues were formalinized and therefore had lost their natural colour and texture. To compensate this disadvantage it was possible thoroughly and at leisure to examine every tissue. The most extensive findings were in the arterial system and their description forms the major part of this article. The anatomical nomenclature used throughout is in accordance with that of Sisson (1938).

The use of rectal examination as an aid in the diagnosis of certain conditions is now a routine measure and without doubt it is of value in suspected cases of strongylosis. It is not proposed to deal with this at great length here and, in any case, a diagnosis of strongylosis should not be based only on the palpation of an aneurysm per rectum. Such an examination has, however, a certain negative value in that, if no aneurysm is detected, it is unlikely that the animal is suffering from infestation with *S. vulgaris*. On the other hand, Oppermann (1941, p. 38) stated that he could palpate tuberculous enlargements of the mesenteric lymph nodes per rectum and claimed to be able to differentiate them from verminous aneurysms by faecal examination and by a differential leucocyte count. We have been unable to corroborate this claim. For example, although in Nos. 5/42, 2/43, large nondescript swellings were palpated per rectum (which on *post-mortem* examination were shown to be parasitic aneurysms), the number of eggs per gramme of faeces and the leucocyte count recorded for these ponies would have been of little value as a means of differential diagnosis between verminous aneurysm and tuberculosis.

Although it is not always possible to detect pulsation in an aneurysm owing to the thickness of the wall, the palpation of a large fixed swelling placed centrally and level with the caudal pole of the left kidney should present little difficulty to an experienced examiner.

Whilst it is possible, if care be used and especially if the aneurysm be large, to detect the main divisions of the anterior mesenteric artery which are involved, it is impossible to palpate per rectum an aneurysm in any other artery.

DISCUSSION

The data presented, particularly in Table I (*overleaf*), which includes those ponies about which detailed information is available, were prepared in an attempt to correlate findings and it will be seen that little concrete information can be obtained from them. Unthriftiness, and a poor condition are, of course, symptoms of strongylosis and can largely be associated with the presence of adult parasites in the intestinal tract as opposed to the occurrence of larvae in other tissues. Although in a few cases a high egg count and extensive aneurysmal infection did seem to be associated with a poor condition this was by no means the rule (*e.g.*, Nos. 8/44, 12/44). In fact, the lack of correlation between egg counts and physical condition is a marked feature of our findings. An increase in blood eosinophils could be correlated neither with a high egg count, except in a few cases (see 17/44, 13/43), nor with any other finding. Some animals (*e.g.*, 9/41, 10/41 and 11/41) were very severely affected clinically and showed, *post mortem*, heavy infections with strongyles and yet no eosinophils were found in blood films made *ante mortem*. It has, however, been noted that there is an increase of eosinophils in the tissue around the site of aneurysms; the significance of this is not clear unless it is concerned with a migratory stage of the larvae. In personal conversation in 1943 with Dowgiallo, he mentioned that, in normal horses showing no evidence of intestinal parasitism by faecal examination or of parasitic skin disease, the normal eosinophil count was 0·5 to 2 per cent. and he considered that the eosinophil count may be raised in animals harbouring internal or external parasites, but that there is no reliable correlation between the eosinophil count and the faecal egg count. He had found that 2·5 per cent. of horses may show no eosinophils in a blood film.

Latteur (1939) recommended, for the diagnosis of equine strongylosis, a combined study of faecal egg counts and of the blood picture to detect the presence of eosinophilia. As will be seen from Table I our data were of little diagnostic significance and as a marked example which counters Latteur's recommendation No. 2/45 showed emaciation associated with several aneurysms whilst there were only about 100 strongyle eggs per gramme of faeces and no eosinophils in the blood films.

The ages of 83 of the 87 horses were known and examination of Table II shows that the majority of cases was between one and three years of age. The ponies were chosen as being in poor condition or fit only for slaughter and no consideration was taken of age. There is no doubt that some would have responded to treatment and, therefore, would have been placed in other age groups at death. Further, the majority of horses killed at any age in any condition will have a parasitic aneurysm. Therefore an age incidence for the *presence* of aneurysm at death is of no significance. However, since the vast majority of these ponies were "culls" from the same stud this age incidence is of significance in that it indicates not so much the age at which the animals were affected as the age at which they were so badly affected as to warrant slaughter.

TABLE II

SHOWING AGE GROUPS OF HORSES AFFECTED WITH ANEURYSMS

Age group	Number examined	Number affected
One to six months	6	5
Seven to eleven months	6	6
One to rising three years	37	36
Three to five years	12	12
Six to 12 years	7	6
Over 12 years	15	15

Although many arteries may be affected with aneurysms the most common are the root and main divisions of the anterior mesenteric. At times the parasitic growth involves so much of the root and main divisions of this artery that it is impossible to state accurately at which point one branch ends and another begins. However, the position of an aneurysm may be restricted to a definite anatomical area (3/42, 9/43, 11/43, 12/44) and its limits can be defined. For example, the main root and the origin of the right division may be clear with the first evidence of parasitic growth showing on the right division near the origin of its branches. Figture 1 outlines the specific areas referred to in the figures and text. Branches of the left division of the anterior mesenteric do not arise from a common root, as do branches of the right and anterior division, but arise directly from the aortic root of the artery, so that an aneurysm of the left division as such is never encountered. Nevertheless, parasitic growth on the anterior mesenteric root in the region of the origin of branches of the left division is encountered and noted accordingly.

TABLE I

No.	Age	Bodily condition	Eggs per gramme of faeces	Leucocyte count (%age)			Aneurysms
				Eosinophils	Polymorphs	Other white cells	
1/41	14 months	Poor	1,300 strongyle	2·2	68·6	29·2	A.M.—root, R., Ant. Ventral colic. Coeliac—root, hepatic, splenic, gastric.
2/41	14½ months	Poor	1,100 strongyle	4·4	69·4	26·2	A.M.—root, R. Ventral colic. Coeliac—root. Aorta.
3/41	14½ months	Fair	1,500 strongyle	3·9	45·7	50·4	A.M.—root, R., Ant. Ventral colic. Coeliac—root, hepatic, splenic. Aorta.
4/41	16 months	Fair	660 strongyle	3·9	50·1	46	A.M.—root, R., Ant. Ventral colic. Coeliac—root, hepatic.
6/41	20–25 years	Poor	1,200 strongyle	7·2	63	29.8	A.M.—root, R., Ant. Left renal.
7/41	Rising 3 years	Very poor	2,600 strongyle 10,000 Ascaris	Nil	77·6	22·4	A.M.—root, R., Ant. Dorsal colic.
8/41	2 years off	Poor	1,600 strongyle	3·6	66·2	30·2	A.M.—root, R., Ant. Ventral colic.
9/41	Rising 2 years	Very poor and weak	15,300 strongyle 600 Ascaris	Nil	87·9	12·1	A.M.—root, R., Ant. Coeliac—root, hepatic.
10/41	2 years off	Extremely emaciated	1,120 strongyle 860 Ascaris	Nil	68·4	31·6	A.M.—root, R. Ventral colic.
11/41	Rising 3 years	Emaciated	860 strongyle 60 Ascaris	Nil	68·7	31·3	A.M.—root, also in region of origin of left branches, R., Ant. Ventral colic. Dorsal colic.
12/41	2 years off	Emaciated	320 strongyle 60 Ascaris	0·5	33·1	66·4	A.M.—root, R. Ventral colic. Colics at pelvic flexure. Coeliac—root, hepatic branch.
14/41	4 years	Good : kept on clean pasture for 6 months before being killed	Taken every day for 6 days : (1) 60 strongyle (2) Nil (3) Nil (4) 60 strongyle (5) 60 strongyle (6) Nil	4·9	62·7	32·4	A.M.—root, also in region of origin of left branches, R., Ant. Ventral colic. Coeliac—root. Left and right renal. Aorta.
1/42	16–18 months	Poor	800 strongyle	•	•	•	A.M.—root, R., Ant. Coeliac—root, hepatic, splenic, gastric. Aorta.
2/42	4 years	Poor	860 strongyle	5·2	48·5	46·3	A.M.—root, R., Ant. Ventral colic.
3/42	2 years	Poor	1,920 strongyle	2·7	72·9	24·4	A.M.—root and one of left branches.
4/42	18 months	Fair to good	1,860 strongyle	4·7	44·9	50·4	A.M.—R., Ant. Coeliac—root.
5/42	18 months	Fair	630 strongyle	Nil	75·1	24·9	A.M.—root, R., Ant. Coeliac—root, hepatic, splenic. Left and right renal. Aorta.
6/42	Rising 7 years	Fair	30 strongyle	0·8	72·5	26·7	A.M.—R., Ant. Coeliac—root, hepatic, splenic.
7/42	4–6 weeks Suckling	Good	30 strongyle	Nil	62·7	37·3	No aneurysms.
8/42	3 years off	Very poor	300 strongyle	•	•	•	A.M.—root, R., Ant. Ileo-caecal anastomosis with last branch of left. Coeliac—root, hepatic. Aorta.
9/42	2 years off	Poor	700 strongyle	1·6	45·8	52·6	A.M.—root, R., Ant. Ventral colic. Colics at pelvic flexure. Lateral caecal. Coeliac—root, hepatic, splenic. Aorta.
10/42	Rising 2 years	Poor	130 strongyle	2·7	49·6	47·7	A.M.—root, R., Ant. Ventral colic. Coeliac—root, splenic, hepatic. Right renal.
11/42	13–16 years	Poor	130 strongyle	5·4	49	45·6	A.M.—root, R., Ant. Common caecal. Coeliac—root, hepatic.
1/43	15–20 years	Very poor	130 strongyle	5·7	69·7	24·6	A.M.—root, R. Ventral colic. Lateral caecal. Coeliac—root, hepatic.
2/43	12–16 years	Very poor	600 strongyle	2·0	79·9	18·1	A.M.—root, R., Ant. Ventral colic. Ileo-caecal.
3/43	9 months	Emaciated	800 strongyle	7·7	52·4	39·9	A.M.—root, R., Ant. Ventral colic. Dorsal colic at pelvic flexure. Common caecal.
4/43	25 years	Very poor	525 strongyle	2·8	64·9	32·3	A.M.—root, R., Ant. Ventral colic. Common caecal.
5/43	15–18 years	Fair	200 strongyle	7·3	51·8	40·9	A.M.—root, R., Ant., one of left branches.
6/43	18 months	Very poor	1,175 strongyle 525 Ascaris	Nil	68·8	31·2	A.M.—root, R., Ant.
7/43	14 years	Poor	130 strongyle	4·5	66·7	28·8	A.M.—R., Ant. Ventral colic. Dorsal colic.
8/43	11 months	Fair	1,825 strongyle 625 Ascaris	1·3	40	58·7	A.M.—root, R., Ant. Colics at pelvic flexure.
9/43	9 years	Poor	400 strongyle 30 Ascaris	1·5	52·7	45·8	A.M.—R., Ant.
10/43	5 months	Fair	2,000 strongyle 865 Ascaris	Nil	56	44	A.M.—R., Ant. Gastric, hepatic.
11,43	3½ months	Fair	2,100 strongyle 30 Ascaris	•	•	•	A.M.—R., Ant.
12/43	6 years	Fair	165 strongyle	4	53	43	A.M.—R. Ventral colic. Common caecal.
13/43	16 years	Poor	2,000 strongyle	7·3	51·8	40·9	A.M.—R., Ant. Ventral colic. Colics at pelvic flexure.
5/44	Rising 3 years	Good	1,200 strongyle	4·1	64·9	31	A.M.—root, R.
8/44	Rising 2 years	Emaciated and weak	Nil	•	•	•	A.M.—root, R., Ant. Ventral colic. Common caecal. Lateral caecal. Coeliac—root, hepatic, splenic. Aorta.
9/44	2 years	Poor	65 strongyle 30 Ascaris	•	•	•	A.M.—R., Ant.
10/44	2 years off	Emaciated	100 strongyle	•	•	•	A.M.—R., Ant. Ventral colic. Dorsal colic.
11/44	2½ years	Poor	30 strongyle	•	•	•	A.M.—root, R., Ant. Ventral colic at pelvic flexure.
12/44	2 years off	Extremely emaciated	Nil	Nil	58	42	A.M.—R.
13/44	2 years	Extremely emaciated	30 strongyle 1,365 Ascaris	•	•	•	A.M.—root, R., Ant. Ventral colic. Ileo-caecal. Dorsal colic. Coeliac—root, hepatic, splenic. Left and right renal. Aorta.
16/44	20 years	Poor	800 strongyle	8·0	66	26	A.M.—R., Ant.
17/44	20 years	Quite good	1,550 strongyle	5·6	58	36·4	A.M.—R., Ant.
1/45	4 years	Emaciated ; died in stable overnight	600 strongyle 65 Ascaris	•	•	•	A.M.—root, R., Ant. Ventral colic. Common caecal. Ileo-caecal. Dorsal colic. Splenic, hepatic.
2/45	Rising 2 years	Emaciated	100 strongyle 230 Ascaris	Nil	62·5	37·5	A.M.—R., Ant. Dorsal colic. Aorta.
3/45	3 years	Emaciated	1,430 strongyle	0·1	80·9	19	A.M.—root, R., Ant. Ventral colic. Dorsal colic. Common caecal. Coeliac—root, hepatic, splenic. gastric. Aorta.
4/45	2 years	Fair	Nil	4·3	33·1	62·6	A.M.—root, R., Ant., left (8 branches). Dorsal colic. Coeliac—root, hepatic, gastric, splenic. Aorta.
7/45	Rising 2 years	Emaciated and weak	Nil	•	•	•	A.M.—R., Ant., left (duodenal branch).
8/45	3 years	Emaciated and very weak	100 strongyle	•	•	•	A.M.—R., Ant. Ventral colic.

A.M. = anterior mesenteric artery ; R. = right branch of anterior mesenteric artery ; Ant. = anterior or middle branch of anterior mesenteric artery ; • = no count made.

FIG. 2

Semi-diagrammatic drawing showing the incidence of aneurysms. The viscera are not drawn to scale and are introduced merely to indicate relative position. The numbers following the names of arteries indicate the number of times the vessels were affected. The heavier the shading, the higher the incidence of aneurysms. The * indicates branches which anastomose.

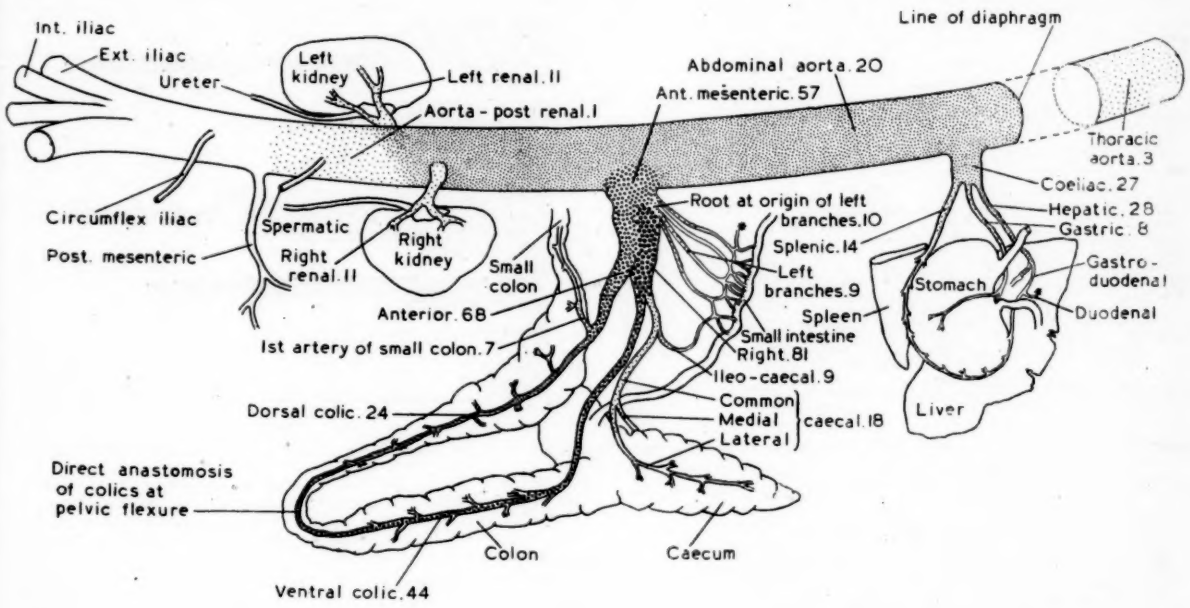


FIG. 1

Diagram of the anterior mesenteric artery and its branches. 1, aorta; 2, root of ant. mesenteric; 3, origin of right division; 4, right division to origin of branches; 5, common caecal; 6, lateral (supra) caecal; 7, medial (infra) caecal; 8, ventral (direct) colic; 9, ileo-caecal (ileal); 10, origin of anterior division; 11, anterior division to origin of branches; 12, first artery of small colon; 13, dorsal (retrograde) colic; 14, root in region of origin of left branches; 15, first branch of left which anastomoses with duodenal; 16, 15-20 left branches; 17, last branch of left which anastomoses with ileo-caecal.

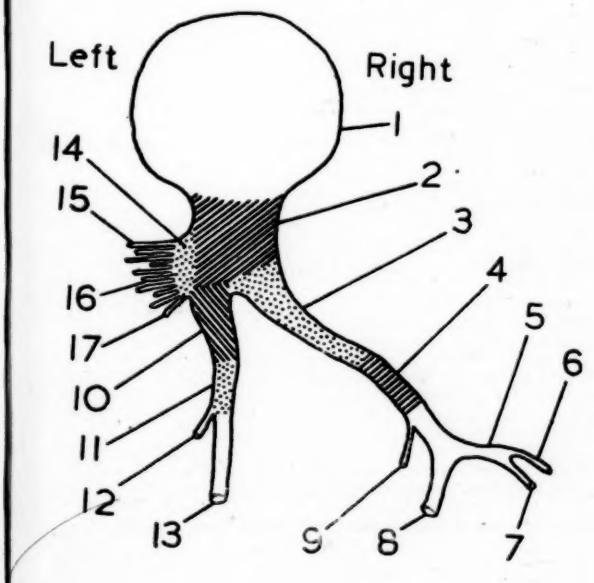
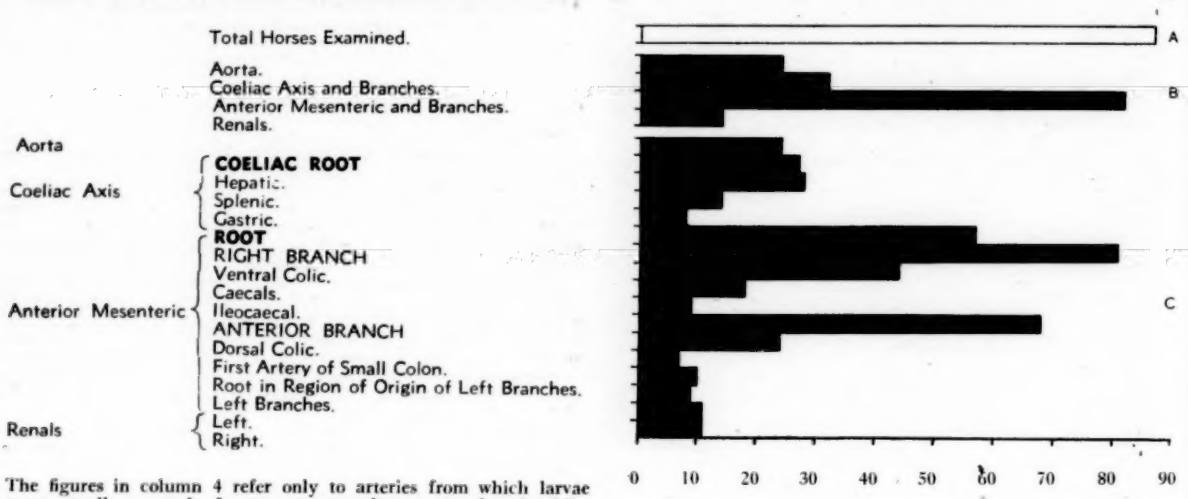


Figure 2 indicates the position and extent of aneurysms associated with *S. vulgaris* which have been found in the arteries of the body, records which show a degree of infestation higher than any we have been able to trace in the literature. Runnells (1941) and others have suggested that, if the larvae were carried in the arterial blood *via* the heart to the branches of the anterior mesenteric artery, it would follow that the young parasites should also be found in the coeliac and renal arteries. In the 120 horses examined by Runnells these vessels were the sites of aneurysms only twice, whereas we found the coeliac axis to be affected 28 times and the renal arteries in eleven cases. From Figure 2 and Table III it can be seen that larvae of this species have been found in many other areas also (*i.e.*, the branches of the main vessels); in this connection, we place the value of careful and thorough dissection very high, as some of these lesions might have been missed at ordinary *post-mortem* examination. How the larvae gain entrance to the arterial system is a matter of controversy but, after gaining entrance, that they travel intra-arterially is very probable. Their presence in branches of the renal artery (*e.g.*, 6/41, 5/42) within the kidney tissue and the finding, at many sites, of large "empty" aneurysms with a glazed tunica intima of the arterial wall and no larvae, indicate such passage. Again, more aneurysms were found at the origin of both the right and anterior divisions of the anterior mesenteric artery than at the main aortic root (see Figures 2 and 3) and the common sites of lodgment of the larvae were at the bifurcation and junction of arterial streams. All of these findings suggest that the larvae do circulate and become arrested at points of resistance to the blood flow. The findings in the aorta would seem to disprove this, but in any case large numbers of larvae were never found here, and when they did occur they were nearly always at points of greatest resistance. In only one pony (11/45) were lesions found in the aorta well within the thorax, and it is rather remarkable that in this case the lesion nearest to the heart was at the junction of the aorta with the origin of the sixth intercostal artery, the first to arise from the aorta, at the point of greatest curve. When one considers this aortic lesion one may question how the larvae could reach a point within six inches of the heart unless they travelled *via* the blood stream. In two other ponies, 8/44 and 4/45, in which the thoracic aorta was involved, the dilatation was in the region of the diaphragm.

As shown in Table III, the greatest number of *S. vulgaris* larvae was found in the right branch of the anterior mesenteric artery, but the average of 84 shown in this figure does not indicate that in several cases more than 300 larvae were collected from this artery.

FIG. 3

Showing the sites and incidence of aneurysms. A, total number of horses examined; B, number of times the four main sites found affected; C, number of times individual arteries found affected.



The figures in column 4 refer only to arteries from which larvae were actually counted. In some cases no larvae were found, whilst in others they could not be counted for various reasons.

TABLE III
SHOWING NUMBERS OF *Strongylus vulgaris* LARVAE FOUND IN THE ANEURYSMS

Artery	Number examined	Number affected	Number of cases in which no larvae were found	Lowest number of larvae found	Highest number of larvae found	Average
Aorta ..	87	24	16	2	310	31
Coeliac and branches ..	87	28	17	1	183	30
Ant.mes. root	87	57	25	4	182	16
A.M.—Right and branches	87	81	65	1	473	84
A.M.—Ant. and branches	87	68	41	2	341	44
A.M.—Left branches	87	9	5	1	30	14
Renals	87	11	7	2	170	25

The largest numbers of larvae were found in aneurysms from the younger age groups, *i.e.*, in animals aged from seven months to five years, and, with the exception of a six months foal in which 182 larvae were found in the root of the anterior mesenteric artery, by far the highest numbers were in the one—rising three years—group.

The size of the aneurysm appeared to bear no relationship to the number of larvae contained therein. In fact, one of the largest aneurysms of the right branch of the anterior mesenteric artery, measuring 20 × 5-6 cm. (No. 14/41), contained only 13 larvae, while a comparatively small one of the same branch, which measured 8 × 7 cm. (No. 12/41), contained as many as 324 larvae.

There was also no correlation between the number of larvae found in the aneurysm at *post-mortem* examination and a faecal egg count made shortly before death. The following figures of total numbers of larvae found compared with the numbers of eggs per gramme of faeces illustrate this point:—

Number of horse	Total number of larvae from all aneurysms	Number of strongyle eggs per gramme of faeces
7/41	85	2,600
10/43	44	2,000
11/43	19	2,100
17/44	Nil	1,550
10/44	341	100
13/44	822	30
4/45	202	Nil
8/45	220	100

This lack of relationship, however, is only to be expected, because the number of eggs in the faeces is dependent upon the number of mature egg-laying female worms in the large intestine and not upon the number of migrating larvae.

As has been stated above, the presence of parasitic aneurysms within the body is not in itself of great significance and only when they occur in an end-artery, *e.g.* the renal, or cause rupture of a main vessel, *e.g.* the colics at the pelvic flexure, could they be the sole cause of clinical symptoms and even death. Cases of this nature have been reported previously by us (Ottaway and Bingham, 1942; Bingham, Ottaway and Senior, 1943). Otherwise they have little effect upon bodily condition unless, as is so often the case, their presence is in association with a large scale parasitic invasion. It is said that aneurysms are a cause of colic. This has been presumed to be due to interference with the circulation to the part. In none of our cases, in spite of extensive aneurysmal growth and thrombus formation, was any obstruction to the blood flow observed. Even in the most advanced lesions the thrombus canalization was as large as, if not larger than, the normal lumen of the artery and the vessels immediately below were of normal patency. On the other hand, evidence of pressure by an aneurysm on proximate nerve ganglia was a common feature, and it is suggested that this could cause nerve lesions, although we have no histological evidence to support the view. Möllmann (1932) found inflammatory lesions in peritoneal ganglia of 83 per cent. of horses with large aneurysms of the anterior mesenteric root and in 29 per cent. of those with only slight aneurysms of this artery. If aneurysms are a cause of colic, then, as some authors have suggested (Olt, 1932; Möllmann, 1932), it may be the nerve lesions which they have produced rather than permanent changes in the arterial wall, of which they are a part, which cause interference with the blood supply of an area.

Many of the cases examined showed evidence of paralysis of the hind quarters. Some ponies were unable to rise unassisted but, once on their feet, were able to move moderately freely. Others were able to get up and down but had a stilted gait. The symptoms resembled those seen in cases of nerve paralysis of the sublumbar muscles and could have been associated with the presence of an aneurysm in this region. On the other hand, they could have been due to generalized weakness, a result of severe parasitic infestation.

The cause of iliac thrombosis has for long been a matter of controversy. The generally accepted view is that the thrombic layers are formed after invasion of the arterial wall (endothelium) by the larvae of *S. vulgaris* (presumably following intra-arterial passage) although few authors record the actual finding of parasitic larvae at this site. Most accounts associate iliac thrombosis with thrombosis and arteritis of other regions in which parasitic larvae are constantly found. Of late, it has been suggested that the original lesion in iliac thrombosis is laceration of the tunica intima following overstretching, which may occur particularly in a race-horse during galloping (Maqsood, 1943; Savage, 1944). In support

of this view Merillat (1944) makes the following points: (1) This lameness is more common in the lighter breeds, yet the heavier breeds are just as prone to infestation with strongyles. (2) The gross pathology of iliac thrombosis bears no resemblance to the lesion of parasitic aneurysm. (3) The symptoms of the two conditions are different. (4) No one to his knowledge has ever succeeded in finding worms in any way connected with the condition. He concludes that it is not unreasonable to find endothelial damage at this extremely turbulent place in the blood stream, the bifurcation of four vessels from the main aorta, especially in racehorses trained for sudden bursts of high speed. The majority of our cases were ponies and no case of iliac thrombosis was encountered. Nevertheless, on general grounds, we cannot support the view that thrombosis of the iliac arteries is associated with parasitic aneurysm for, although we have found extensive evidence of *S. vulgaris* larvae in many arteries, in no instance were they found at the iliac bifurcation, which does not suggest that this is a predilection site for parasitic aneurysms.

Summary and Conclusions

An account is given of the examination of 87 ponies for evidence of infestation with *Strongylus vulgaris*. Particular attention has been paid to the location of parasitic aneurysms.

Little correlation could be found between the physical condition of the animal, the number of eggs per gramme of faeces, the percentage of blood eosinophils and the presence of aneurysms, and it is considered that the comparisons of such findings can be of small value for diagnostic purposes.

The root and origin of the main divisions of the anterior mesenteric artery were the most common sites of aneurysmal growth, but lesions were also found in the coeliac axis root and its branches, the renal arteries, and the aorta. Figures are given to show the position of aneurysms associated with *S. vulgaris*, and they demonstrate a degree of infestation higher than it has been possible to trace in the literature.

Evidence is produced suggesting an intra-arterial migration of *S. vulgaris* larvae, which may possibly be associated with part of the life cycle of this parasite.

The numbers of larvae found in the aneurysms are recorded. The majority came from ponies in the younger age groups.

The size of the aneurysm appeared to bear no relationship to the number of larvae contained therein.

There was evidence to support the view that verminous colic may be due to nerve lesions in the peritoneal ganglia produced by pressure of proximate aneurysms.

The association of iliac thrombosis with the presence of *S. vulgaris* larvae is discussed.

Acknowledgments.—We wish to thank Professor I. McCunn for the interest he has taken in the work; Dr. I. N. Oldham for his many helpful suggestions and assistance in the preparation of the figures; Mr. I. F. Martin for his drawings of figures 1 and 2; Mr. H. A. Pool for technical assistance, and the many students of the Royal Veterinary College who facilitated our work both by their interest and by the care with which they preserved the specimens in their dissection ponies.

References

Bingham, Myra L. (1943). Parasitic aneurysms in a young foal. *Vet. J.* **99,** 245-246.

——, Ottaway, C. W., and Senior, M. (1943). Two cases of death due to parasitic aneurysms. *Vet. Rec.* **55,** 140.

Latteur, J. P. (1939). [Treatment of equine strongylosis.] *Vlaam. Diergeneesk. Tijdschr.* **8,** 135-144. Cited in *Vet. Bull.* **10,** 935.

Maqsood, M. (1943). Traumatic iliac thrombosis in a racehorse. *Ind. vet. J.* **20,** 133-136.

Merillat, L. A. (1944). Thrombosis of the iliac arteries in horses. *J. Amer. vet. med. Ass.* **104,** 218-220.

Möllmann, L. H. (1932). Zur pathologie der sympathischen bauchganglion des pferdes—ganglion coeliacum plus mesentericum anterius—zugleich ein beitrag zur pathogenese der kolik. *Zschr. veterinärk.* **44,** 273-288.

Olt, —. (1932). Das aneurysma vermi osum des pferdes und seine unbekanntenbeziehungen zur kolik. *Dtsch. tierärztl. Wschr.* **40,** 326-332.

Oppermann, M. (1941). Ueber 64 fälle von tuberkulose beim pferde. *Dtsch. tierärztl. Wschr.* **49,** 19-22, 37-40, and 100.

Ottaway, C. W., and Bingham, Myra L. (1941). Some records of parasitic aneurysm in clinically affected horses. *Vet. Rec.* **53,** 275-282. Discussion, pp. 295-297.

——, ——. (1942). Parasitic aneurysm of the renal arteries of the horse. *Vet. Rec.* **54,** 216-217.

Runnells, R. A. (1941). Cecal and colic artery occlusion in the horse. *Mich. Sta. Coll. Vet. J.* **1,** 67-72.

Savage, A. (1944). Iliac thrombosis in a thoroughbred. *Canad. J. comp. Med.* **8,** 117-118.

Sisson, S. (1938). The anatomy of domestic animals. W. B. Saunders & Co. Phil. and London.

CLINICAL COMMUNICATION

Treatment of Sarcoptic Mange in the Dog using Hexachlorobenzene

E. F. LEWIS, M.R.C.V.S.,
Steyning, Sussex

Case I

Subject.—Eight-months-old mongrel bitch.

History.—Constant skin irritation, especially after sitting by the fire. Owner's search for fleas negative.

Symptoms.—The bitch appeared in fair condition. Ill-defined areas of baldness were obvious inside the thighs and on the points of hocks and elbows. Several small pustules were present on the surface of the thighs. Material was taken for the usual microscopical examination and revealed *Sarcoptes scabiei*.

Treatment.—The bitch was bathed with soap and warm water and was thoroughly rinsed. It was then immersed in a suspension of 4 oz. of gammexane powder in one gallon of warm water. The sediment resulting from the insoluble powder was well rubbed into all obvious lesions. The dog was drained and dried in a warm room.

Instructions were given with regard to diet, husbandry and disinfection of kennel and other points of contact. The animal was allowed to go home.

The dog was returned in ten days with no clinical signs of mange; hair was beginning to grow and to date there has been no recurrence.

Case II

Subject.—Six-year-old Sussex Spaniel bitch.

History.—Over weeks the dog scratched the whole surface of the body. It was bathed frequently in Dettol solution without relief.

Symptoms.—The animal was in lean condition, bald in many places and hair generally was sparse. An unpleasant odour emanated from the skin and ears. The eyes were discharging. The skin over the back and particularly at the points of the buttocks was thickened and folded. Skin scrapings were positive for *Sarcoptes scabiei*.

Treatment.—Similar to Case I but repeated three times with four-day intervals. The only obstinate part was the skin over the buttocks and a thin cream of powder and water was applied daily to the area. Within two months the dog appeared normal (in bathing, special attention was applied to eyelids, ears and folds of skin elsewhere).

No other treatment was used beyond the application of the usual principles of good feeding and hygiene.

Remarks

These two cases roughly represent opposite ends of the scale of advancement of the disease. Over the last twelve months 37 confirmed cases, of varying degree of severity, were treated as above with satisfactory results. In only the advanced cases was more than a month required to see an end to all clinical signs. The number of applications of dressings was dictated by the extent and duration of the condition. In the worst cases the bath was repeated three times at four-day intervals as in Case II above, and obstinate lesions anointed daily. In very mild cases a single bath was sufficient to effect a cure. The optimum strength of solution to produce marked results appeared to be 4 oz. per gallon.

The preparation used was "Flea Beetle Dust" made by the Plant Protection (I.C.I.) Co., and contains hexachlorobenzene (Gammexane).

Advantages

The preparation :—

1. Appears to be completely non-toxic.
2. Is easily applied.
3. Is absurdly cheap.
4. Appears to be lethal for ectoparasites of the flea and louse variety.

Disadvantages

1. The powder has a musty, penetrating but not unpleasant odour.
2. In the above form it is insoluble in water.

Weekly Wisdom

Disinterested intellectual curiosity is the life-blood of real civilization.—G. M. Trevelyan, "English Social History" (Introduction).

ABSTRACTS

[Vitamins in Animal Health. Allcroft, Ruth. (1945.) *Vet. J.* **101**. 215.]

This article gives a general summary of all the information available on vitamins which is likely to be of interest to a veterinary surgeon.

Vitamins are organic substances necessary for the maintenance of life and health in man and animals, but not necessarily contributing to the structural framework or energy requirements of the body. Each vitamin is specific as a lack of it will result in a characteristic deficiency disease, but optimal supplies will be reflected only by a general state of good health, although some vitamins also exert other therapeutic effects and counteract intoxications. There is evidence of synergistic action between vitamins, so the relative proportion of the various vitamins necessary is of importance, apart from the absolute amounts present. International standards have been set up so that the quantities present in feeding-stuffs and tissues can be estimated and compared. It is hoped that these will eventually be expressed as weights of pure substances, instead of the arbitrary standards based upon bio-assay in use at present, but although chemical and microbiological methods are now available for estimating many of the vitamins, animal experimentation is still the ultimate test.

Vitamin A exists, as such, only in the animal body, and is formed, probably in the liver, from certain carotenoid pigments, called provitamins A, which are present in all green or yellow parts of vegetables. Cats are incapable of this conversion, and it would appear that all carnivorous animals find enough vitamin A in food of animal origin, and so have no need to convert the provitamins. The most important sources of vitamin A are livers and liver oils, particularly fish oils. Another form, designated A_2, occurs in fresh-water fish, in addition to the normal form. Vitamin A and the provitamins are secreted in eggs and milk. Colostrum contains a much higher vitamin A potency than milk—in the bovine 10 to 100 times as much. The vitamin A content of all newly born animals is low, but rises rapidly and reaches adult level in a few days or weeks.

The vitamins and the provitamins are absorbed through the intestinal walls, transported through the organism by the blood and lymphatics, and the vitamin is stored in the liver, while the provitamins can be found in the reproductive organs. The vitamin is an essential constituent of the pigment found in the rods of the retina.

A vitamin A deficiency is the most common deficiency found in cattle. Night blindness, progressing to permanent blindness, and excessive secretion of tears, are the most common lesions. The legs and forequarters may swell, showing extensive oedema of the fat and muscle tissue on *post-mortem* examination. Cows usually conceive, but either abort or give birth to weak calves, and may retain the placenta. The calves frequently scour and show respiratory disorders. In pigs night blindness and partial posterior paralysis are early signs, and spasms or convulsions develop in advanced cases, with loss of appetite and diarrhoea. Irregular breeding is reported and abortion of foetuses showing developmental defects. In addition to the usual symptoms horses show scaly hooves and faulty hoof growth. Chicks show decreased growth, inflamed eyes, and a nasal discharge, and turkey chicks are similarly and very severely affected. In hens the same symptoms develop slowly.

All adult mammals require 20 I.U. of vitamin A daily per kilo of body weight. For storage and reproduction three times these quantities are needed. Good sources are green grass, silage, green-coloured hay and yellow carrots. Foods deficient are cotton seed meal, linseed, wheat, oats, barley, straw and low quality hay. It is wasteful to mix A concentrates into food and leave for any length of time, as the vitamin is inactivated after a week or two.

There are ten provitamins D, but only vitamins D_2–D_5 have been prepared in pure form. The provitamins occur in plants and animals, and are activated to vitamin D by complex processes involving the application of energy, such as ultra-violet light, cathode rays, and radium emanations. There is a definite species specificity for vitamin D, for the rat uses D_2 and D_3 equally, but a chick uses D_3 more efficiently than D_2, and a preparation which is active for chicks is not necessarily equally active for turkeys.

The D vitamins occur only in small quantities in most animals, but fish livers contain abundant stores. Milk and eggs contain small amounts, and the colostrum of cows contains from six to ten times the quantity found in normal milk. The chief function of this vitamin is to stimulate growth. A deficiency leads to rickets in young animals and osteomalacia in adults, with abundant uncalcified osteiod tissue as the chief histological feature. Calcification commences within 24 hours of the administration of the vitamin. In severe cases the muscles become weak and flabby, and the animal is more susceptible to infectious disease. The successful treatment of rickets depends on ensuring an adequate supply of vitamin D and adjusting the ratio of calcium and phosphorus. It is possible that the incidence of milk fever in cows is reduced by the administration of vitamin D before parturition. Under normal grazing conditions, involving exposure to sunlight, farm animals do not suffer from D deficiency, and the cheapest source of supply for stalled stock is good quality sun-cured hay. A daily intake of approximately 110 I.U. per kilogram body weight has been suggested for pigs.

There are three known E vitamins α, β and γ tocopherol. The synthetic and naturally occurring α have the same biological efficacy, while the β and γ isomers are only about half as active. All green plants contain demonstrable amounts of the vitamins and small stores are found in the livers of horses and cattle. Birds exhibit a pronounced need, especially during embryonic growth. Vitamin E plays an essential role in the metabolism of skeletal muscle, and although easily absorbed from the intestinal tract is not well utilized when given parenterally. In vitamin E deficiency in the male rat, there is early loss of sperm motility, and then progressive degeneration of the entire germinal epithelium. The ensuing sterility is quite permanent. In the female developing embryos die *in utero*, and are absorbed, the changes being only temporary. Another early symptom is degeneration of the skeletal muscles, which is seen in herbivorous animals given excess cod-liver oil, as the unsaturated fatty acids destroy the vitamin E in the diet. Lesions of muscular stiffness in lambs, which occurred while the lambs were on dry food, were cured by the subcutaneous injection of an α tocopherol salt. On a deficient diet chicks become paralysed at about five weeks of age, and also accumulate large quantities of fluid in the subcutaneous tissues, mostly of the breast and abdomen. Very little is known concerning the vitamin E requirements of farm animals other than poultry. Vitamin E concentrates have been ascribed properties like oestrogenic hormones, but there is no evidence that the vitamin is concerned in endocrine processes. Most cattle feeds are good sources, and it is unlikely that a deficiency will occur in cattle. The daily intake of a 1,000 lb. cow on summer pasture is equivalent to 4 to 7 lb. of good wheat germ oil, and it is improbable that smaller doses will cure sterility.

Vitamin K_1 is present in green leafy vegetables, and K_2 in most bacteria. An animal, therefore, has two sources of K, K_1 in the food, and K_2 synthesized by bacterial action in the intestine, so it is difficult to induce a deficiency, although feeding high doses of mineral oil inhibits absorption, as does any intestinal lesion. Fowls cannot utilize K_2 synthesized in the intestinal tract, so are easily rendered deficient by feeding on a diet containing little or no K. Its chief function is the maintenance of normal blood coagulation, as the vitamin is involved in the formation of prothrombin.

J. O. L. K.

* * * * *

[A Report of Six Cows with Infectious Cystitis and Pyelonephritis Treated with Penicillin. Beck, J. D., DeMott, T., and Boucher, W. B. (1945.) *Univ. Pa. Bull. Vet. Ext. Quart.* **100**. 10-16.]

Details are given of the treatment with penicillin sodium of six cases of pyelonephritis due to *C. renale*. This consisted of the intramuscular injection of 300,000 units dissolved in saline (0·5 per cent.) every four hours until 10 million units had been applied. No toxic symptoms were observed.

All cases showed clinical improvement and three recovered completely. Haematuria returned, however, in one case, and *C. renale* was recovered subsequently in the other two cases.

C. renale was shown to be sensitive to penicillin *in vitro* in a dilution of 0·025 unit per c.c., whereas the concentration in the urine shown in the accompanying tabular records of each case, was very much greater, varying from 3·0 to 50·0 units one hour after the first injection.

N. S. B.

CARMARTHEN'S HEALTHY HERDS

"Carmarthen has been fortunate in securing recognition for the excellence of its dairy cattle and for its very low percentage of tuberculosis," writes "Blythe" in the *Farmer and Stock-Breeder*, and continues: "It has been well served by its leading auctioneers, who have promoted shows and sales with the accent on health and conformation. I heard of breeders from the county who pay big prices to well-known breeders for their Dairy Shorthorn bulls and who have done well in the sale of their progeny in the local market. There are not many areas where the encouragement from both official and commercial sources to breed good stock and keep it healthy has been so persistent as in West Wales, and Carmarthen's growing prestige in this respect is well deserved."

IN PARLIAMENT

THE GOVERNMENT AND VETERINARY EDUCATION

Broad Acceptance of the Loveday and Chancellor Reports

Assurance of Substantially Increased Financial Assistance

In the House of Commons on Monday Mr. Robert Hudson asked the Minister of Agriculture whether he was now in a position to make a statement with regard to the recommendations of the Loveday Committee on Veterinary Education and of the Chancellor Committee on Veterinary Practice by Unregistered Persons.

Mr. Tom Williams: The Government welcome, in principle, the recommendations made by the Loveday Committee on Veterinary Education in Great Britain and by the Chancellor Committee on Veterinary Practice by Unregistered Persons, on some of which discussions have taken place with interested bodies. Accordingly, it is intended as soon as practicable to introduce legislation:—

(*a*) Empowering the Privy Council, after consultation with the Minister of Agriculture and Fisheries or the Secretary of State for Scotland (as the case may be) and with the Council of the Royal College of Veterinary Surgeons, to authorize a university to confer degrees which shall entitle the holders to registration with the R.C.V.S. as veterinary surgeons;

(*b*) Providing for the reconstitution of the Council of the R.C.V.S. broadly on the lines proposed by the Loveday Committee;

(*c*) Providing for that Council to exercise agreed powers of inspection of teaching facilities and examinations at all veterinary teaching centres; and

(*d*) Dealing with the subject of veterinary practice by unregistered persons on the general lines proposed by the Chancellor Committee.

The Loveday Committee also recommended greatly improved veterinary educational facilities, involving considerable capital expenditure and additional annual expenditure. The Government recognize the need for such improved facilities and will be prepared to provide substantially increased financial assistance to veterinary education.

It will not be practicable to introduce legislation immediately, but this announcement will, it is hoped, help the Royal College of Veterinary Surgeons and the universities concerned to begin making their plans. In the meantime, discussions will be continuing on outstanding points.

Mr. Hudson: While congratulating the right hon. Gentleman in having brought to a conclusion these long negotiations, which started some five years ago, may I ask him whether, in view of the probability of delay in passing a Bill owing to the pressure of business, there is any possibility of getting the universities to start courses this year instead of waiting until next year, in view of the shortage of veterinary surgeons to-day?

Mr. Williams: We are in discussion with the universities and with the Royal College, and I am hopeful that they will start to make arrangements at a very early date.

Mr. Clement Davies: Is it proposed to provide a college for veterinary education in Wales, in connection with the Welsh university?

Mr. Williams: I am afraid I cannot answer my hon. and learned Friend offhand, although I doubt it.

[Commenting on the Minister's statement, *The Times* observes: "Now that agreement has been reached on the broad lines of policy, the R.C.V.S. and the universities concerned should begin making their plans, so that more students can start their course in the coming Michaelmas term. The hopes of an effective plan for building up the health of the nation's dairy herds, a matter of vital importance to the producers and consumers of milk alike, depend mainly on the veterinary service that can be provided. The Minister's statement marks a step forward; it should be quickly followed by an announcement of plans ffor the systematic clearance, area by area, of such bovine diseases as tuberculosis and contagious abortion. Certainly there is plenty of work ahead for the entrant into the veterinary profession."]

Questions

Colonial Empire (Veterinary Service)

Mr. Lipson asked the Secretary of State for the Colonies what plans he has made to secure more adequate staffing in the Colonial Veterinary Service.

Mr. George Hall: So far as adequate staffing is dependent upon adequate pay, prospects and status for veterinary officers, I am in consultation with a number of Colonial Governments and with the National Veterinary Medical Association with regard to certain improvements in existing conditions which may be advisable and I hope that as a result the recruiting situation will improve. There is, however, an Empire-wide shortage of qualified veterinarians which is not likly to be resolved in the immediate future. With the general object of providing the necessary postgraduate training for candidates for the Colonial Veterinary Service, there has been in existence for several years a scheme for giving scholarships to newly qualified veterinarians to fit them for the special duties of veterinary officers in the tropics, and also to selected science graduates to enable them to take the Diploma of Membership of the Royal College of Veterinary Surgeons. A training school has been in existence for a number of years at Entebbe in Uganda, and African graduates from this school are already at work in East Africa. About three years ago a veterinary training school was started at Vom in Nigeria with assistance under the Colonial Development and Welfare Act.

Anaesthetics in De-horning Adult Cattle

Colonel Clarke asked the Minister of Agriculture what are the regulations with regard to the use of anaesthetics in the de-horning of adult cattle.

Mr. T. Williams: The Animals (Anaesthetics) Act, 1919, prescribes that bovine animals of over one month old shall not be de-horned unless during the whole of the operation they are under the influence of some general anaesthetic or some local anaesthetic of sufficient power in either case to prevent them feeling pain.

Newsprint Supplies

Mr. De La Bere asked the Prime Minister whether, as many newspapers could publish only four pages because of the shortage of newsprint, resulting in the creation of difficulties in finding work for many returning from the Forces, he would negotiate with the Canadian Government for the purpose of supplying the necessary dollar exchange and transport for additional quantities of pulp for newsprint.

Mr. Attlee: The financial assistance which we have received from the Canadian Government does not free us from the need to husband our dollar resources carefully. The question whether we can afford additional imports of newsprint will be kept under review. I understand that more pulp is not likely to be available.

Mr. De La Bere: Does the Prime Minister realize that the nation wants the full, unrestricted truth—(cheers)—and is he not further aware that the Canadian Government have offered pulp, transport and dollar finance? Why not deal with these very generous people and let us have the truth?

Mr. Attlee: I do not need to be told of the generosity of the Canadian Government, but my information is that pulp is not available.

REPORT

[Uganda Protectorate: Annual Report of the Veterinary Department for 1944.]

General

The increased demand for animal products, largely as a result of the war, has created a shortage resulting in high prices and an intensified interest in stock. Whereas overstocking was thought to be an evil demanding restrictive control, understocking now exists, suggesting that side by side with disease control should go education in animal husbandry and increased utilization of animal products. Milk, meat and ghee are in heavy demand. Pigs are becoming popular, and the preparation of hides and skins continues to improve.

Owing to the considerable spread of *G. morsitans palidipes*, large areas of the country are being denuded of cattle as a result of trypanosomiasis. The only way in which this disease will ever be successfully controlled, appears to lie in the field of chemotherapy. What might have been a serious rinderpest epizootic was successfully controlled by use of the Kenya goat virus.

Veterinary Laboratory

Experiments in chemotherapy have not yet yielded a drug that will successfully control *T. congolense*. Pentamidine is of little value, work on phenathridinium 1553 and stibophen is proceeding. Glucose tolerance in bovines is discussed; several pathological conditions are described. Most important research work is being done with milk-recorded herds in order to ascertain the milk potentiality of indigenous cattle. This is only possible under conditions of optimal food intake. In order to undertake this work it was first necessary to establish a herd of fully hand-milked heifers. This work is the first step in breeding and grading experiments. Methods of estimating the weight of bovines by measurement and their age by dentition are discussed.

R. F.

Royal College of Veterinary Surgeons

SPECIAL MEETING OF COUNCIL ON VETERINARY EDUCATION*

At a Special Meeting of Council held at the College, 10, Red Lion Square, London, W.C.1, on Thursday, January 10th, 1946.

Present: Major A. B. Mattinson (President) in the chair, Professor T. J. Bosworth, Mr. Esmond Brown, Professors T. G. Browne, J. B. Buxton, Messrs. H. W. Dawes, R. E. Glover, G. N. Gould, Dr. Tom Hare, Capt. W. R. McKinna, Mr. G. P. Male, Professor W. C. Miller, Captain T. M. Mitchell, Professor W. M. Mitchell, Colonel Sir Arthur Olver, Captain J. W. Procter, Major L. P. Pugh, Dr. J. Share Jones, Lt.-Colonel P. J. Simpson, Messrs. Arnold Spicer, H. W. Steele-Bodger, Major H. Sumner, Mr. J. F. D. Tutt, Professor G. H. Wooldridge, Dr. W. R. Wooldridge, Professor J. G. Wright.

1. *Minutes.*—The minutes of the previous Special Meeting held on November 20th, 1945, having been printed and circulated, were taken as read and signed as correct.

2. *Apologies for Absence.*—Apologies for absence were received from Mr. F. Beckett, Professor T. Dalling, Mr. J. Holroyd, Professor W. Kearney, Messrs. J. W. McIntosh, W. Nairn, Captain S. J. Motton, Captain W. K. Townson.

3. *Report of Deputation to Ministry of Agriculture.*—The President referred to the report of the deputation to the Ministry of Agriculture on November 28th, 1945, which had been circulated to members, and after briefly commenting on the interview, called upon each member of the deputation to speak. The President then asked the members to consider the motions which had been placed before them in writing and which he proposed to move from the chair. Prolonged discussion followed, amendments were put forward and finally the following motions were carried unanimously:—

I. (*a*) That the Report of the Delegates be received and approved.

(*b*) That the best thanks of the Council be accorded to the Delegates, and also to those members who had taken part in previous meetings with the Minister of Agriculture and in conferences with representatives of the Ministry and the Universities.

II. That approval be given to the proposal of the Minister of Agriculture that he should announce in the House of Commons the intention of introducing legislation:—

(*a*) Providing for the reconstitution of the Council of the R.C.V.S. broadly on the lines proposed by the Loveday Committee, but subject to certain modifications to be agreed upon after discussion.

(*b*) Providing for the R.C.V.S. Council to exercise full powers of inspection of teaching facilities and examinations at all veterinary teaching centres.

(*c*) Empowering the Privy Council, where they are satisfied, after consultation with the Minister or the Secretary of State for Scotland (as the case may be) and with the concurrence of the R.C.V.S. Council, to "authorize" a university to confer degrees which would entitle the holders to registration as veterinary surgeons.

> Assent to this proposition is given on the understanding that, in any Bill promulgated to give effect to it, it is made clear that the question whether and when any university should receive "authorization" would be a matter for consideration and decision at the appropriate time and in the light of the circumstances, by the Council and the Minister, and that only when the Privy Council were advised that a university fulfilled the requirements and could provide the appropriate facilities would the degrees of that university become registrable.

(*d*) Dealing with the subject of veterinary practice by unqualified persons broadly on the lines proposed by the Chancellor report.

III. That the Council agrees to set up an informal body consisting of representatives of the Council, and of the appropriate bodies interested in veterinary education (the Affiliated Veterinary Schools and Universities) together with representatives of the Minister and the Secretary of State for Scotland, for the purpose of discussing matters of joint concern, and with power to appoint a sub-committee for consultation on points arising in the preparation of a Bill, and in its passage through Parliament.

4. *Appointment of Representatives on Informal Body.*—It was resolved:—

That the following members be appointed to serve on the Informal Body referred to in resolution III above:—

The President, Vice-Presidents and Chairmen of Standing Committees.

5. *Affiliated Veterinary Colleges.*—It was resolved:—

(*a*) That a letter be sent to the Governors of the Affiliated Veterinary Colleges acquainting them with particulars of what had transpired during the past two years and of the resolutions passed by Council at this meeting.

(*b*) That the preparation of this communication be left in the hands of the President, Professor J. B. Buxton and Captain T. M. Mitchell.

* The full proceedings are published in the *Supplement* issued to members, N.V.M.A., with this number of *The Veterinary Record.*

Questions and Answers

"Questions and Answers" will be published on alternate weeks.

The submission of questions for inclusion in this column will be welcomed: they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.

All communications should be addressed to the Editor.

Alternatives to the Probang for Unchoking a Cow

Q. CLIII.—*Having read in a recent issue of the "Record" that the probang is an instrument of the past, what are the alternative methods, surgical or medical, for unchoking a cow?*

A.—This question draws attention to the fact that much which appears in *The Veterinary Record*, as in every live journal, is an expression of personal opinion. The present writer is certainly not of the opinion that the probang is "an instrument of the past," having used it successfully and safely for many years. If, however, it is desired to use an alternative method, the first step is still to establish as far as possible the probable nature of the obstruction; careful questioning of the owner and attendants will usually enable a fairly accurate guess to be made, *e.g.*, piece of mangold, swede, turnip, apple, or mass of chaff or sugar-beet pulp—in this order of frequency. The next step is to attempt lubrication of the obstruction by drenching with about an ounce of linseed oil. Surgical interference may then be attempted as follows:—

(1) Massage of obstruction *downwards.*

(2) Puncture of rumen with trocar and cannula to allow escape of gas which is usually present under pressure in cases of complete choking; the relief of pressure will sometimes relieve the spasm of oesophageal muscle and allow normal peristaltic movement to cope with the obstruction.

(3) In extreme cases, when other methods have failed, oesophagotomy (*q.v.*) may be resorted to.

(4) If chaff or pulp is suspected, it may be removed by use of the stomach-tube; a small quantity of water is pumped in and allowed to syphon off, bringing with it a little of the mass; the procedure is repeated as long as is necessary.

Medical methods for the relief of choking comprise (*a*) the injection of atropine and/or adrenaline to relieve the spasm of oesophageal muscle, and (*b*) the injection of eserine, pilocarpine or arecoline, or a combination of one or more of these agents, to increase peristaltic movement and the flow of mucus.

Diet of Greyhounds in Training and the Rearing of Greyhound Pups

Q. CLIV.—1. *What is the proper diet to give greyhounds in training—track greyhounds?*

2. *How much meat should the following receive daily?*:—
   (*a*) *Greyhound bitch, say of 52 lb. weight*;
   (*b*) *Greyhound dog of 62 lb. weight*;
   (*c*) *Greyhound dog of 73 lb. weight.*

3. *How should a bitch be fed?*:—
   (*a*) *In whelp*;
   (*b*) *In nursing*;
   (*c*) *At what age should pups begin to receive food?*

A.—(1) The proper diet of a greyhound in training consists of:—
Cereal. (*a*) Bread, 1½ to 1¾ lb. daily.
or (*b*) Biscuits, 1 lb. or so daily.
Meat. Part raw, part cooked, 8 oz. to 16 oz. per day.
Vegetables raw, minced and some cooked.
Salt and Water.

(2) Greyhounds are fed twice daily, each feed measuring roughly three pints.

Half the bread ration is soaked in boiling vegetable broth to make one feed, and the second feed is similarly soaked and the raw vegetables, raw and cooked meat added.

The individual greyhounds must be fed according to their particular requirements, their own physical condition and the amount of work being done.

The above range of diet will cover the body weights given. There is nothing to be gained by overfeeding on meat.

(3) (*a*) The bitch in whelp requires about 80 per cent. of racing feed of bread, half a pound of meat and ample supply of fresh vegetables. Meals are again fed in semi-liquid form.

(*b*) The nursing bitch requires liberal supplies of liquid food. She often refuses food for the first day or more after whelping, then

NOTES AND NEWS

Diary of Events

Apr. 8th.—Meeting of the Society of Veterinary Practitioners at St. Leonards-on-Sea (Warrior House Hotel), 2 p.m.
Apr. 9th.—Scientific Meeting of the Zoological Society of London, Regent's Park, N.W., 5 p.m.
Apr. 10th.—Meeting of the Editorial Committee, N.V.M.A., 2.30 p.m.
Apr. 10th.—R.C.V.S. Committee Meetings.
Apr. 11th.—R.C.V.S. Committee Meetings.
Apr. 11th.—Annual Meeting of the West of Scotland Division, N.V.M.A., at Glasgow (North British Station Hotel), 2.30 p.m.
Apr. 12th.—R.C.V.S. Committee and Council Meetings.

N.V.M.A. Meetings at 36, Gordon Square:—

Apr. 15th.—Finance and General Purposes Committee at 11.30 a.m.
Apr. 16th.—Sub-committee on First Aid Handbook at 10 a.m.
Organizing Committee at 12 noon.
Joint Veterinary Officers and Public Health and Parliamentary Committee at 2 p.m.
Appointments Committee at 4 p.m.

N.V.M.A. Meeting at the Connaught Rooms, Great Queen Street:—

Apr. 17th.—Council Meeting at 11 a.m.
Apr. 23rd.—Meeting of the Society of Chemical Industry (Agriculture Group), 2.30 p.m. (Venue to be announced later.)
Apr. 26th.—Meeting of the Mid-West Division, N.V.M.A., at Clifton (Bright's Café), 2.15 p.m.
Apr. 26th.—Meeting of the Royal Counties Division, N.V.M.A., at Oxford (Randolph Hotel), 2.30 p.m.
May 3rd.—Meeting of the Welsh Branch, N.V.M.A., at Aberystwyth.
May 7th.—R.C.V.S. Animal Management Examinations, commencing in London.
May 7th.—R.C.V.S. Council Elections—Last date for Nominations.
May 11th.—Annual Meeting of the Association of Veterinary Inspectors, at Friends' House, Euston Road, N.W.1, 2 p.m.
May 21st.—R.C.V.S. Council Elections—Voting Papers issued.
May 28th.—R.C.V.S. Council Elections—Voting Papers to be returned.
June 4th.—R.C.V.S. Annual General Meeting.
June 4th.—R.C.V.S. Committee Meetings.
June 5th.—R.C.V.S. Committee Meetings.
June 6th.—R.C.V.S. Committee and Council Meetings.

* * * * *

Parasitic Diseases of Cattle

Copies of the Report on Diseases of Farm Livestock, Section III, Parasitic Diseases of Cattle (N.V.M.A. Publication No. 8), are now available at 6s. 6d. post free, except that students and members may obtain this publication at the special reduced price of 2s. 6d. post free.

* * * * *

The Danish Invitation to the Children of Veterinarians in Great Britain

In our last issue we published the invitation received from the Danish Association of Veterinary Surgeons, offering hospitality to the children and other dependants of veterinary surgeons in this country, together with the grateful response made by the President, N.V.M.A.

We would repeat our previous intimation that arrangements to carry this warm-hearted project into effect will be made as soon as the number of children and other dependants can be ascertained, and those of our readers who wish to avail themselves of this opportunity for their children are requested to inform the General Secretary without delay.

* * * * *

R.C.V.S. Council Election

Since our last announcement, the nomination for election to Council has been received of Major T. Hicks, of Sleaford, Lincs., whose proposers are Professor J. McCunn and Mr. C. Weighton.

Veterinary Service of the French Colonial Office

Government Reception for Representatives

Among the happiest features of these post-war days has been the opportunity of welcoming our veterinary colleagues from France. Outstanding amongst these fraternal meetings is the official visit now being paid to this country by Monsieur Feunteun, Chief of the Veterinary Service of the French Colonial Office, and his colleagues, Monsieur Lloverel (Deputy Chief), Monsieur Balay, and Monsieur Vallée, in connection with veterinary colonial development.

The Government's appreciation of the importance and significance of the visit of these distinguished veterinarians was reflected in a reception held at the Colonial Office on Monday evening.

The guests were received by the Rt. Hon. George Hall, M.P., Secretary of State for the Colonies, and among those present were: Sir George Gater, Permanent Secretary to the Colonial Office, Mr. John Smith, Adviser on Animal Health to the Colonial Office, and Mr. W. W. Henderson, of the Colonial Veterinary Service, Messrs. J. N. Ritchie, J. Brennan and E. C. Lloyd, of the Ministry of Agriculture and Fisheries, Messrs. Geo. N. Gould (President, N.V.M.A.), Major R. C. G. Hancock, Professor Wm. C. Miller, Mr. H. Steele-Bodger, Dr. W. R. Wooldridge (Past Presidents, N.V.M.A.), Messrs. H. E. Bywater, J. Carmichael, R. E. Glover and T. L. Wright.

* * * * *

PERSONAL

Mr. Ritchie Goes to Edinburgh ad Mr. Brennan Becomes a "Deputy Chief"

In the course of his speech in the debate on the Government's agricultural policy on February 25th, the Secretary of State for Scotland referred to discussions which he had had with the Minister of Agriculture and Fisheries with regard to animal health administration in Scotland, and announced that the Minister had arranged to strengthen his headquarters veterinary staff in Edinburgh by stationing there one of his deputy chief veterinary officers.

After consultation with the Secretary of State, the Minister has appointed to this post Mr. J. N. Ritchie, B.SC., M.R.C.V.S., D.V.S.M., who had served with the Department of Agriculture for Scotland from 1935 until his transfer to the Ministry in 1938. Mr. Ritchie already has taken up his new duties. His services will be available to the Secretary of State in an advisory capacity on veterinary aspects of Scottish agricultural policy.

The Minister has appointed Mr. A. D. J. Brennan, M.R.C.V.S., Superintending Inspector, to the post of Deputy Chief Veterinary Officer rendered vacant by the transfer of Mr. Ritchie to Edinburgh.

Forthcoming Marriage.—Hewitt—Ball.—The engagement is announced between S. L. Hewitt, M.R.C.V.S., only son of the late Mr. Sam Hewitt and Mrs. Hewitt, of "Bridgelands," Ulverston, to Mary, only daughter of Mr. and Mrs. Ball, Marshside, Southport.

Governor of a Famous School.—Our President, Mr. Geo. N. Gould, was last week re-elected as a member of the Board of Governors of King Edward VI School, Southampton. Himself an Old Edwardian, he also has long experience in the O.E. Association presidency.

* * * * *

R.C.V.S. OBITUARY

Bruce, George Stanley, F.R.C.V.S., Park Road, Hengoed, Glam. Graduated London, July 16th, 1901; Fellowship May 16th, 1908. Died March 19th, 1946.

* * * * *

VICTORIA VETERINARY BENEVOLENT FUND

In Memory of Dr. Fred Bullock

Third List

Donations gratefully acknowledged from:—

Mrs. A. Barnett, Mr. and Mrs. Frank Bullock, Members of the I.C.I. Veterinary Staff, Worshipful Company of Farriers (£25), Mr. H. W. Steele-Bodger.

	£	s.	d.
Amounting to	34	2	0
Previous list	92	4	6
Total to date	£126	6	6

March 30th, 1946.

* * * * *

ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the country in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Swine Fever:

Cheshire.—Old Mill Lane, Hazel Grove, Stockport, Cheshire (Mar. 27th).

---

prefers milky foods when they are procurable. Increasing amounts of bread are added and finally she is brought back to a diet of meat, vegetable and bread.

When milk is unprocurable, as at present, it will be found that broth feeding is quite satisfactory and one tablespoonful of cod liver oil should be added to her food daily.

(*c*) Pups should begin to lap liquid nourishment any time after three weeks. Sometimes it becomes necessary to remove the dam because she is injuring the puppies. In such cases supplementary food should be given and the bitch taken back at intervals to allow the puppies to have some of the dam's milk, under supervision.

Essex.—Hoo Hall, Rivenhall, Witham, Essex (Mar. 26th).

Isle of Wight.—Freshwater Farm, Freshwater, Isle of Wight (Mar. 27th).

Lanarks.—51, Provanhall Road, Glasgow, E.1 (Mar. 29th).

Lincs. (*Kesteven*).—5, Council Houses, Northorpe, and The Green, Thurlby, Bourne, Lincs. (Mar. 27th); 78, Council Houses, Dyke, Bourne, Lincs. (Apr. 1st).

Lincs. (*Lindsey*).—Ironstone Gardens, Horton Street, Lincoln (Mar. 27th); 31, Hungate, Lincoln (Mar. 28th); Sherwin's Piggeries, Skewbridge Gardens, Boultham, Lincoln (Apr. 1st).

Norfolk.—Marsh Lane Farm, King's Lynn, Norfolk (Mar. 27th); The Stores, Watlington, King's Lynn, Norfolk (Apr. 1st).

Soke of Peterborough.—24, Eye Road, Newark, Peterborough (Mar. 26th); Wothorpe Farm, Stamford, Lincs. (Mar. 28th).

Sussex (*West*).—Budgebor Lodge, Easebourne, Midhurst, Sussex (Mar. 26th).

Surrey.—Silvermere Farm, Byfleet Road, Cobham, Surrey; "Maryland," Oreston Lane, Effingham, Leatherhead, Surrey (Mar. 29th).

Yorks. (*E.R.*).—Main Street, Wetwang, Malton, Yorks. (Mar. 26th); Millingdale Cottages, Lowthorpe, Driffield, Yorks. (Mar. 27th); Castle Farm, Sledmere, Malton (Mar. 30th).

Worcestershire.—Meadow Farm, Catshill, Bromsgrove, Worcs. (Apr. 1st).

* * * * *

ANIMAL DISEASE SERVICES

"An expansion of the Veterinary Investigation Service and the institution of laboratory services is considered necessary by the N.F.U. Diseases of Animals Committee," states *The Farmers' Weekly* in its current issue and continues: "The committee is also supporting the N.V.M.A. in urging that a practical veterinarian should be included on the technical committees of the Agricultural Research Council and/or the Agricultural Improvement Council dealing with animal diseases. It is also considered that the Ministry of Agriculture should be asked to start a marking scheme for calves vaccinated against contagious abortion under the Ministry's Calfhood Vaccination Scheme. Quarterly inspections of all dairy herds are wanted so as to minimise the risk of unsound animals remaining in herds for long periods."

* * * * *

LIVESTOCK IMPROVEMENT ASPECT OF THE GOVERNMENT'S AGRICULTURAL POLICY

In the course of his recent address to farmers at Carmarthen, Mr. Percy Collick, Joint Parliamentary Secretary to the Ministry of Agriculture and Fisheries, said that Wales was, of course, primarily a livestock country and in the south they had a long tradition both for dairying and as a breeding ground for sheep and feeding cattle. The growing demand for milk during the last 20 years, accelerated by war conditions, had led to the transfer from rearing to milk production on many farms, some of them in hill districts. Milk was still our first need, and provided a reasonably high herd average yield was maintained, this change was to our advantage to-day. Rearing must not be neglected, however, and many Welsh farms were admirably suited to the rearing of stores. One consequence of the change of emphasis from beef to dairy farming had been, for a time at least, unfortunate. That was the effect on herd policy. Herd owners accustomed to breed for a good carcase had thought it necessary to introduce a bull of a different type from the rest of their cattle to throw extra milk into their herds; and many a herd policy had tended to lose coherence between the claims of milk, meat and local conditions. This was a state of affairs by no means particular to Wales; it had been happening over a period of years in many districts of England as well, and some undesirable cross-breeding had inevitably resulted. The standard of production from each beast could be improved by the adoption of a consistent and well planned breeding policy on every farm. Pure breeding from good strains of uniform type was the best and only sure way, and the development of artificial insemination should help in this direction, particularly for the small farmer. The selection and consistent use of good sires was the first essential step, and the next was the keeping of performance records, especially milk records, as a guide to economic feeding and the selection of good yielders as breeding animals. In addition, official schemes for grading up to pedigree adopted by most cattle breed societies offered an excellent opportunity to the small farmer to enhance the value and quality of his herd. "Livestock improvement has long since ceased to be an interest of the wealthy farmer only and has become the business of the ordinary commercial man," said Mr. Collick, "the Government offer ample assistance to the small farmer in need of a good sire at reasonable cost. Bull licensing has secured a minimum standard of quality for all bulls in use, and the introduction of the Beef, Dairy and General types of licence provides a guide to the purchaser of a bull as to the type of herd for which it is suited. Boar licensing is coming on April 1st and should ensure that the recovery of our pig stocks proceeds on the right lines. The Ministry's bull, boar and heavy horse stallion grants provide financial assistance towards the purchase, for communal use, of sires capable of begetting improved progeny, and the County War Agricultural Executive Committees have done a good job of work in selecting and placing pure bred bull calves out of approved dams."

Animal Health

"So much for the positive side of livestock improvement. We can never forget, however, that animal diseases constitute a constant threat to the well-being of the livestock industry and are responsible for a considerable reduction in the potential output of livestock products, particularly of milk and meat. It is difficult to estimate the loss in terms of money and in reduced output; but it is certainly high. By the application of the results of research work carried out during the past 20 or 30 years, and especially during the past ten years, there has been a definite improvement in our knowledge of the causes of some of the important diseases and our methods of controlling them. It must be stressed, however, that continuing research work is the foundation of improvements in the health of livestock throughout the country and this work will be continued as intensively as ever.

Attested Herds Scheme.—"I know that you are particularly interested in the Tuberculosis (Attested Herds) Scheme. This scheme, which was introduced in 1935, made rather slow progress, but in 1938 and 1939 very rapid progress was made in certain areas, notably here in the county of Carmarthen and in the adjoining counties of Cardigan and Pembroke. Despite a partial hold-up during the war, when entry to the scheme was restricted to T.T. herds, the number of attested herds in Great Britain had passed the 20,000 mark before the end of last year. The figure now exceeds 20,700: these herds contain over 800,000 cattle. Adding to this number the cattle in licensed T.T. herds which are not at present attested, which account for a further 100,000 to 150,000 cattle, the number of cattle in herds subject to regular official tuberculin testing is now close on a million. Cattle in attested herds represent over 9 per cent. of the total cattle population; the proportion for Wales alone is nearly 20 per cent., while that for Carmarthen is 50 per cent. The corresponding figures for Cardigan and Pembroke are 51 per cent. and 29 per cent. respectively. I would like to offer you my congratulations on those figures. Keep up the good work."

The "Panel Scheme" for Dairy Cattle.—"The Scheme for the Control of Diseases of Dairy Cattle, popularly known as the 'Panel Scheme,' was introduced during the war with a view to reducing the heavy losses of milk caused by mastitis, contagious abortion, sterility and temporary infertility, and Johne's disease. The number of herds participating in the scheme in Carmarthen has increased slightly in recent months, and now stands at 270, covering about 7,700 cows and heifers. The terms of future undertakings under the scheme are being discussed between the National Farmers' Union and the National Veterinary Medical Association in the knowledge that the Ministry, as the third party to the scheme, is prepared to continue the valuable free and assisted services hitherto provided. The object of the scheme is to encourage farmers to place their herds under the regular supervision of a veterinary surgeon rather than to call him in only when individual animals need attention. Prevention is better than cure."

Contagious Abortion Vaccination Scheme.—"Under the scheme for the vaccination of calves in dairy herds against contagious abortion, which was introduced at the end of 1944, over 200,000 calves were vaccinated last year by veterinary inspectors of the Ministry. Of these, Carmarthen accounted for over 3,500, and Cardigan and Pembroke 1,300 each. At first, there were difficulties over the supply of vaccine, but the position in this respect is now satisfactory, and it has now been decided to extend this scheme to cover not only dairy herds but also all Attested Herds whether dairy herds or not. Vaccination will be carried out at the time of tuberculin tests of the herds. I would urge all farmers with eligible herds to take advantage of this scheme."

* * * * *

"THE VETERINARY PROFESSION IN THE SCHEME OF THINGS TO-DAY"

In a recent address on the above subject, Mr. Geo. N. Gould, President of the N.V.M.A., spoke to Taunton Rotarians of the great scientific research progress made in the control and prevention of animal diseases. During the war years, he said, there had been tremendous accomplishments, particularly in the control of diseases such as rinderpest, which had contributed so much to the feeding and maintenance of our troops in Africa and the Middle East.

After paying a tribute to the work of the farming community during the war, Mr. Gould said when the cereal emergency was over, which should be after two harvests, given reasonable weather conditions throughout the world, the veterinary profession would have to cope with a great expansion of animal population which must follow. The profession had a great responsibility in the care and well-being of the animal population of this country. He was

glad that the State Department of the profession was becoming responsible for building up disease-free dairy herds in this country, and he thought it would not be long before a long-term scheme was introduced for the eradication of tuberculosis from dairy stock.

"The conception of the veterinary surgeon as an individual simply responsible for the treatment of sick animals is outmoded," Mr. Gould concluded. "The job of the veterinary profession to-day is to maintain the health and productivity of stock at the highest possible level, and to be responsible for the production of food of animal origin and its delivery to the consumers without any risk of disease. In other words, supervision from the farm to the table. That is the conception of the veterinary profession which we hold and which will come."

Artificial Insemination

Earlier in his address, Mr. Gould expressed his conviction that artificial insemination of cattle is bound to develop and go forward, and, answering questions on the subject at the conclusion of his talk, said he was closely connected with an artificial insemination centre in Hampshire. "I feel certain it has come to stay," he said. "The object is the extension of the service of the best bulls to the greatest number of animals possible at a fee within the range of any individual farmer. It is very advantageous from the point of view of disease control."

There was no scientific or practical reason to his knowledge why it should tend to weaken cattle. In fact there was evidence against this from Russia, where it had been in use for 25 years, and also from the United States.

Thanking the speaker, Rotarian Mortimer White said farmers had not been sufficiently disease-minded in the past, but they were gradually becoming so. He personally would like to see double the number of Ministry veterinaries appointed because he thought the veterinary profession could prevent a great amount of animal disease before it came to the position of needing a cure.

* * * * *

HILL FARM RESEARCH

The Department of Agriculture for Scotland announce that Mr. A. H. H. Fraser, a member of the research staff of the Rowett Research Institute, Aberdeen, has been appointed to act as Technical Secretary to the Hill Farm Research Committee of the Scottish Agricultural Advisory Council.

* * * * *

FELLOWSHIP OF THE ROYAL SOCIETY

The following were included amongst those elected Fellows of the Royal Society at the annual meeting for the election of Fellows held on March 21st: Engledow, Frank Leonard (Cambridge), Professor of Agriculture and Director of the Imperial Bureau of Genetics; Ford, Edmund Brisco (Oxford), reader in genetics, University demonstrator in the Department of Zoology and Comparative Anatomy; Hill, Robert (Cambridge), member of the staff of the Agricultural Research Council; and Yonge, Charles Maurice (Glasgow), Regius Professor of Zoology.

* * * * *

RED CROSS AGRICULTURE FUND

The Duke of Norfolk, Mr. T. Williams, Minister of Agriculture and Fisheries, and Lord Iliffe spoke at a luncheon given recently at the Dorchester Hotel by Mr. R. W. Haddon, Chairman of the Red Cross Agriculture Fund, to celebrate the closing of the fund with a grand total of £8,313,175. This sum, contributed by the rural communities and those who live by and on the land, was made up as follows: England and Wales, £7,388,188; Northern Ireland, £149,662: Scotland, £775,325.

* * * * *

Control of Infectious Animal Diseases in the South-West Pacific Area

Formation by U.N.R.R.A. of a Veterinary and Livestock Secretariat

The following reports have reached us, subsequent to the publication in our issue of March 16th of an intimation of the establishment of a Livestock Secretariat for the South-West Pacific Area.

The first international conference of veterinarians ever held in Australia has just concluded its sittings in Sydney. The conference was convened by U.N.R.R.A. in view of the immediate problem of shipping into the liberated countries of livestock for rehabilitation. The object was to establish collaboration amongst Pacific nations in controlling infectious animal diseases. It was attended by veterinary representatives of practically all Far Eastern member Governments of U.N.R.R.A. and the commands of Admiral Lord Louis Mountbatten and General MacArthur.

Decisions reached by the conference are likely to have important results for Australian livestock. These include the establishment by U.N.R.R.A. of a Secretariat, which, at the request of the veterinary representatives of the Far Eastern nations, will collect and publish statistics on epizootic diseases and will provide for prompt reporting of outbreaks of diseases likely to sweep from one country to another. In addition, the Secretariat will collect and publish information on other aspects of the livestock industry, such as the presence in various countries of animals particularly adapted to tropical conditions or having resistance to disease.

The conference requested U.N.R.R.A. to develop the U.N.R.R.A. South-West Pacific Area International Veterinary and Livestock Secretariat as a branch of whatever world organization is ultimately set up by the United Nations. Thus the work of the Secretariat may be continued for normal disease control and trade purposes after U.N.R.R.A. has completed its relief and rehabilitation tasks.

Rebuilding of flocks and herds reduced during the war is a major task of rehabilitation in the Far East. Australia is one country to which devastated nations look for livestock. Co-operation between the veterinary authorities of Australia and importing countries is an essential prelude to the establishment of an export industry.

On the opening day, Sir Robert Wallace, Vice-Chancellor of Sydney University, addressed the conference, which he said was a good omen for international co-operation in facing problems of the Pacific. He afterwards entertained the veterinary representatives at lunch, and said he would welcome at Sydney University students from all over the Pacific.

Mr. Geoffrey C. Remington, Acting Director of U.N.R.R.A., South-West Pacific Area Office, who was elected Chairman of the conference, spoke of the need for veterinary services in relief and rehabilitation of war damaged countries. He said that because of the breakdown of veterinary services, emergency slaughtering for food, overwork for animals, and actual destruction by military operations, livestock were almost wiped out in some parts of war-devastated countries. Diseases which arose under such conditions threatened the livestock industries of all neighbouring countries. Countries of small farms, such as China and the Philippines, needed an urgent measure of protective relief to rehabilitate livestock industries. Countries which could produce food would then be strong enough to tackle the rehabilitation of other industries and general economic reconstruction. Until they could produce food for themselves they were dependent on relief gifts of food from a world in which at present food shortages were general.

Colonel Max Henry, one of the Consultants to the conference, said that the statistical returns and bulletins published by the Office of Epizootics in Paris, which, before the war operated under League of Nations auspices, had been extremely valuable in disease control.

Dr. F. C. Minett (India) stressed the point that exchange of such information was valuable not only to police measures for disease control, but also in directing and stimulating research into new methods of disease control.

Dr. C. C. Chen (China) said that when a house was on fire neighbours assisted to put it out in order to safeguard their own houses. The position was the same in regard to animal diseases. Countries must co-operate to eradicate disease which occurred in any country in order to prevent its extension to other countries.

Mr. D. A. Gill (New Zealand) observed that whatever U.N.R.R.A. might succeed in implementing for relief and rehabilitation purposes would have a lasting value after U.N.R.R.A. had completed its task. The United Nations would surely plan to continue such an important work.

Dr. H. E. Ferguson (U.S.A.) introduced a resolution requesting U.N.R.R.A., on behalf of the Pacific nations, to establish a Veterinary and Livestock Secretariat which would carry out in the Pacific and neighbouring areas the work in controlling epizootic diseases which had formerly been carried out by the League of Nations. This was amended on the motion of Dr. Minett, supported by Dr. Vincende Ferriols (Philippines) by adding that the Secretariat should also collect and disseminate information on other aspects of livestock industry. For example, the suitability of certain breeds of livestock for tropical conditions and of relatively unknown tropical or drought-resisting plants for feeding livestock.

Colonel R. T. Seymour (General MacArthur's Command) spoke of international transport of animal products as food for the army and of animals themselves, as being a military necessity. Frequently animal products for food and animals themselves had to be transported under emergency conditions. It was essential to both the Army and the Governments of the countries in which they operated that veterinarians should have a complete picture of diseases occurring in the country from which the food and animals originated and in the country to which they were transported.

Mr. A. Luytjes (Netherlands) said that the information would be of inestitmable value to his Government, but it would be some time before information could be collected and forwarded from the Netherlands East Indies.

Major William Granger, acting head of the Agricultural Rehabilitation Division of U.N.R.R.A.'s South-West Pacific Area Office,

who will be executive officer of the Secretariat, based in Sydney, said that the conference had outlined work of immediate importance on relief and rehabilitation.

It provided for a service which, if continued, would permanently assist in the development of livestock industries. Delegates had travelled great distances, often under uncomfortable conditions, but all were agreed that the work of the conference and the opportunity to meet Australian veterinarians and assist Australian livestock had been worth while.

Delegates

The complete list of delegates who attended the conference is as follows: Australia, Mr. R. N. Wardle, B.V.Sc., Director, Division of Veterinary Hygiene, Department of Health, Australia; China, Dr. C. C. Chen, B.S., D.V.M., Technical Expert of the Ministry of Agriculture and Forestry, Republic of China; India, Dr. F. C. Minett, D.Sc., Director, Imperial Veterinary Research Institute, United Provinces, India; Mr. A. Luytjes, B.Ag.Sc., University Wageningen, Holland, Agricultural Engineer, Department Economic Affairs, Batavia, N.E.I.; New Zealand, Dr. D. A. Gill, M.R.C.V.S., D.V.S.M., formerly District Superintendent, Department of Agriculture, N.Z.; Philippines, Dr. Pedro Sales, D.V.M., Chief Section of Animal Production, and Dr. Vicende Ferriols, D.V.M., Chief, Animal Disease Control Division, Bureau of Animal Industry, Department of Agriculture, Commonwealth of the Philippines; U.S.A., Dr. Harry E. Ferguson, D.V.M., formerly Deputy State Veterinarian for Montana, U.S.A.

Representatives of Military Commands were: Admiral Mountbatten's Command, Lieut.-Colonel J. B. Girling, of S.E.A.C. Liaison Mission; General MacArthur's Command, Colonel R. T. Seymour, D.V.M., V.C., who had flown from Manila to attend the conference.

Representing U.N.R.R.A. S.W.P.A. were: Mr. Geoffrey C. Remington, Acting Director; Major William Granger, B.V.Sc., acting head, Agricultural Rehabilitation Division.

In addition the following members of the Veterinary Advisory Group to U.N.R.R.A.'s S.W.P.A. International Veterinary and Livestock Secretariat acted as Consultants to the conference: Dr. I. Clunies Ross, D.V.Sc., Dean, Faculty of Veterinary Science University of Sydney; Mr. Max Henry, B.V.Sc., M.R.C.V.S. (Chairman of Group), Chief, Division of Animal Industry, Department of Agriculture, and Lecturer in Epizoodermiology, University of Sydney; Mr. R. N. Wardle, B.V.Sc., Director, Division of Veterinary Hygiene, Department of Health, Commonwealth of Australia; Dr. Lionel Bull, B.V.Sc., Chief, Animal Health and Nutrition Division, Council of Scientific and Industrial Research; Dr. D. T. Oxer, D.V.Sc., Senior Veterinary Officer, Commonwealth Serum Laboratories, and Mr. E. J. Fawcett, N.Z. Director-General of Agriculture.

* * * * *

Report by Professor I. Clunies Ross, D.V.Sc., Dean, Faculty of Veterinary Science, University of Sydney.

It is obvious that the rehabilitation of war ravaged countries must include the restoration of their livestock industries. Livestock are essential, not only for the supply of food, but equally for clothing, transport and agriculture.

In many countries in the Far East, the livestock population has been greatly reduced as the result of the war, and pending the recovery to normal numbers, general rehabilitation must be seriously handicapped. The restoration of the livestock industries will, however, be greatly retarded if further losses are caused by enzootic diseases, by diseases introduced by livestock from other countries and no less by malnutrition or inefficient breeding practices.

With these facts in mind, a meeting of the Council of U.N.R.R.A. for the Far East held at Lapstone, N.S.W., Australia, in February, 1945, resolved:—

> "That draft proposals for the establishment of a Veterinary Consultative Body for the Far East be submitted immediately to Member Governments for their consideration and in the event of their agreement to the principle, steps be taken by U.N.R.R.A. to have a detailed convention drafted for adoption by Member Governments broadly comparable with that suggested by the panel on veterinary services of the Technical Sub-committee on Agriculture for Europe."
>
> (C.C.F.E. Sydney 2, appendix 5, para. 85.)

Pursuant to the above resolution, the Office of U.N.R.R.A. for the South-West Pacific Area convened a conference of Veterinary Representatives of Far Eastern Member Governments in Sydney, Australia, from December 14th to 17th, 1945.

The conference asked that the U.N.R.R.A. S.W.P.A. International Veterinary and Livestock Secretariat undertake functions which may be summarized as follows:—

(1) The preparation by arrangements with member countries of check lists of communicable diseases of livestock of economic importance of virus, bacteriological, protozoal and metazoal origin, such lists to include indications of the prevalence and distribution of the diseases listed, and the dissemination of such information to member countries.

(2) The publication by the Secretariat for distribution to member countries of monthly statistical bulletins similar to those published before the war by the Office International des Epizooties, incorporating information on the incidence of infectious diseases obtained from member countries, and that copies of this information be sent to the Office International des Epizooties in Paris; the form in which the statistics are presented to be modelled on the practice of the Office International Epizooties in order to co-ordinate the form of publications of the Secretariat with that of the Office International des Epizooties.

(3) The arrangement for notification by cable of the occurrence for the first time in a member country of scheduled diseases, or any major extension of these diseases into areas previously unaffected.

(4) The preparation by the Secretariat of a suitable standard form to be used by member countries in transmitting the disease information agreed upon and of suitable map forms; the latter being used to show the extent and distribution of the diseases notified.

(5) The collection from and dissemination to member nations of information as to the nature of veterinary organizations in force, the qualifications and types of training undergone by veterinary personnel and the number of veterinary personnel as contrasted with the number of humans and animal population in each of the member countries and, in addition, the measures adopted within the territories of each for the control of specific infectious diseases occurring therein.

(6) The provision of a general information service to member countries on any aspect of livestock industries to those countries including, in addition to disease matters, those in relation to breeding and feeding of livestock.

(7) Ascertaining from member countries those diseases in respect of which health certification must be provided for imported livestock and arranging in collaboration with the Office International des Epizooties for the drawing up of standard health certification for this purpose; in this connection the Secretariat to draw the attention of Governments to the desirability of extending the scope of certification of livestock intended for import to include, for stud animals, such examination for genital soundness as may appear to the importing country to be desirable; and to request exporting countries to make available for the purpose of livestock for export such information on type and performance as may be sought.

(8) The preparation for dissemination to member countries of a list of biologicals prepared by, and the methods of manufacture, standards and control within each member country, and the provision for regular exchange of information on items and quantities obtainable for export.

(9) The collection and dissemination of information on:—

(*a*) facilities available in exporting countries for quarantine, inoculation and testing of livestock, and

(*b*) requirements of importing countries in respect of quarantine, inoculation and testing of livestock, and facilities available for these in the country of import.

(10) The dissemination among member countries of information on methods of inspection and certification in member countries of meat, meat products and of animal products such as: dairy products, eggs, hides and skins, hair and wool, intended for export or import, the Secretariat to bring to the notice of member countries the desirability, where this is not already done, of placing inspection and control of meat and meat products, skins, hides and wool, and raw milk, under veterinary supervision.

(11) Facilitating exchanges of administrative, research and other veterinary and livestock workers between member countries and to provide for postgraduate educational facilities in member countries for such workers.

(12) Ascertain whether member countries would, in cases of emergency, due to serious outbreaks of epizootic diseases, favourably consider accepting on loan the services of veterinarians from other member countries and whether, under such circumstances, member countries would be prepared to make veterinarians available on loan.

(13) The arranging of reports on any temporary veterinary or livestock missions, or permanent missions, working in member countries, whether sponsored by Governments or by private enterprise.

(14) The assessment of livestock requirements of member countries, and the available resources of potential exporting countries in respect of these needs; and the resources in personnel, equipment and fodder needed to use and care for imported livestock in recipient countries.

(15) Establishing liaison with the Office International des Epizooties with a view to obtaining recognition of the Secretariat as an organization which might develop in due course into a Far Eastern Pacific Branch of a comprehensive world organization under the control of United Nations.

(16) Inviting the co-operation in, and the support of, the work of the Secretariat of those nations which, although not members of U.N.R.R.A. S.W.P.A., have territories bordering on the Pacific Area.

The proposed organization and functions of the Secretariat will provide a valuable service in all veterinary and livestock matters to Far Eastern and Pacific countries and will serve to supplement the work of the Office International des Epizooties in Paris, which, before the war, was not adequately represented in the Far East.

Major William Granger, B.V.Sc., was appointed Executive Officer, and the Office of the Secretariat has been opened at U.N.R.R.A. S.W.P.A., 52, William Street, Sydney, N.S.W., Australia.

The Chairman of the conference was Mr. G. C. Remington, Acting Director of the South-West Pacific Area, U.N.R.R.A. The Executive Member of the conference was Major W. Granger, of the South-West Pacific Area, U.N.R.R.A.

* * * * *

NATIONAL HORSE ASSOCIATION LECTURES AND DEMONSTRATIONS

Under the auspices of the above Association a series of lectures and practical demonstrations on Horsemanship and Horsemastership will be held in the Riding School, Hyde Park Barracks, Knightsbridge, London (by kind permission of the Officer Commanding, Household Cavalry), every Thursday fortnight, at 7 p.m., as follows:—

Thursday, April 11th.—Equitation—by Captain Tony Collings, M.B.E., F.I.H.

Thursday, April 25th.—Hints to Show Exhibitors—by Major H. F. Faudel Phillips, M.B.E.

Thursday, May 9th.—Demonstration and Lecture on Training a Horse—by Henry Wynmalen, Esq., followed by a "Brains Trust" on Horsemanship and Horsemastership. Question Master: Major H. F. Faudel Phillips, assisted by a panel of experts.

Thursday, May 23rd.—Practical Horsemastership—by Sam Marsh, Esq., followed by Buying and Care of Saddlery by Miss O. E. Pratt, F.I.H.

Prices of Admission (Each Lecture): Non-members of the National Horse Association, and on day of lecture: 5s. (non-reserved). Members can obtain tickets up to the day before each lecture at 4s. each. Forty front row seats will be reserved at 7s. 6d. each lecture.

. . . . . .

Report of Council

The report of the Council presented to the Annual General Meeting of the Association held in London on March 20th included the following items:—

Financial Position.—Despite the many difficulties experienced in running the Association during the war, the Council consider that the financial position is sound. As the Association recommences all its pre-war activities, and extends its work during the coming year, heavy expenditure is bound to be incurred, but the Council rely with confidence upon the continued support of existing members, and the enrolment of many new subscribers, through their efforts.

Membership.—On March 1st, 1946, the number of members on the books of the Association was as follows:—

	1929	1945	1946
Horse Breeding Societies ...	17	18	18
Associated Societies, Clubs and Horse Shows, etc.	137	90	163
Private subscribers, firms, etc. ...	1,377	1,471	2,429
	1,531	1,579	2,610

This increase is highly satisfactory, and the thanks of the Council are expressed to all those who have enlisted new members, and also to our new supporters. The Council aims to double its membership during the coming year.

Royal Support.—Early in 1945 the Association was honoured by H.R.H. Princess Elizabeth, who graciously consented to become Patron, and later in the year H.R.H. Princess Alexandra was enrolled as a member.

Presidency.—Frances Lady Daresbury has been acting President of the Association ever since September, 1939, owing to the absence abroad of The Earl of Athlone, and will now be handing over her responsibilities to our new President, Lieut.-Col. Sir Archibald Weigall, Bart., K.C.M.G. Lady Daresbury's time of office was during the most difficult period of the Association's life, and the Council feel that this is an opportune moment to offer her their sincere thanks on behalf of the Association for her regular attendances at all meetings, and her unremitting and devoted services in the past.

Offices.—As already announced, London offices have now been established, consisting of three rooms on the second floor of 43, Russell Square, London, W.C.1.

Horse and Pony Benefit Fund.—By now all members are aware, through the News Sheet, of the success that has attended the launching of the Horse and Pony Benefit Fund originated by Mr. R. S. Summerhays, to whose initiative and untiring efforts the success has been due, and have also received information as to the allocation of the first £515 of this fund. Subscriptions and donations continue to arrive, and a large number of executives of shows and gymkhanas have very kindly promised to remit a proportion of their profits this year to the fund.

County Horse Associations.—The closest co-operation has been established by the Association with the recently formed County Horse Associations, and the existence of these bodies has enabled early information of local difficulties to be brought before the Association. It is hoped that these Associations, with their knowledge of local conditions, may be the means of securing improvement in non-slip road surfaces, additional facilities for riding on grass verges, the preservation of bridle tracks and Green Belt lands, the continued use of the horse for agriculture, etc., and that they will be able to assist the Association in every way to further the interests of horse and pony owners generally.

General Activities.—The National Horse Association will be officially represented at a number of shows this year: it is resuming its courses of lecture-demonstrations; participating in the Wembley Display in June, as the official representative of horse riding on the Central Council of Recreative Training; compiling a list of riding schools, and gradually resuming all its pre-war activities.

* * * * *

MINISTRY OF AGRICULTURE NEWS SERVICE

Increase in General Farm Poultry.—Figures giving the provisional results of the December, 1945, livestock returns for England and Wales have just been issued and with the exception of poultry the numbers are remarkably static when compared with December, 1944.

Poultry, however, have increased by 5,151,000 over the December, 1944, figure, bringing the total to 28,605,000. There is every reason to believe that farmyard fowls account for a high percentage of this increase. The feeding of these fowls does not present quite such a problem as it does on a commercial poultry farm where the birds are dependent for their food on rationed feeding-stuffs and the ingenuity of their owner.

Figures for June, 1945, are naturally much higher than those for December, for it is in the autumn that much culling takes place. Poultry population in June, 1945, was 37,355,000, but it is not unlikely that in spite of all feeding difficulties the numbers of poultry will be much the same in June and December, 1946, as for the corresponding dates last year.

* * * * *

SCOTLAND'S LIVESTOCK POPULATION

Statistics issued by the Department of Agriculture for Scotland, and based on the September, 1945, Agricultural Returns, show a decrease in the number of horses, sheep and dairy cattle on Scottish farms, and an increase in the number of beef cattle, pigs and poultry compared with a year ago.

The total number of horses, 116,000 is lower by 5,000 since last September. Dairy cattle total 802,000, as against 813,000; while the number of beef cattle has increased from 586,000 to 623,000. From 6,410,000 in September, 1944, the sheep population has fallen to 6,356,000—a decrease of 54,000. Pigs, 178,000, are more numerous by 8,000.

* * * * *

Fear was expressed at the annual meeting of Stowmarket, Suffolk, Heavy Horse Society, at the growing shortage of grooms to take charge of travelling stallions during the service season, and it was decided to ask the Ministry to bear this point in mind in connection with training schemes.

* * * * *

Kingswood Homespun, the Cambridge Insemination Centre Friesian bull, has now sired over 3,000 calves and this is believed to be a world record. The bull has now left the centre for the use of Hale (Bramfield), Ltd.

* * * * *

Since liberation, the Royal Jersey Agricultural Society have registered 800 more calves in their herd book than during the corresponding period last year. All animals landing on Guernsey from Alderney must in future undergo quarantine for a period of six months.

* * * * *

"I feel that this Council should warn the country that the era of food sold in the British markets at less than its cost of production is over."—Mr. James Turner, Chairman of the N.F.U.

* * * * *

The profits made by the average dairy farm—51 to 150 acres, namely £394, of livestock farms of the same size of £277, and of arable and mixed farms of £468 cannot be termed excessive, more particularly when it is considered that they include in most cases payment due to the farmer for his manual work.—*Farmer and Stock-Breeder.*

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

Notice to Correspondents

The Editorial Committee regrets that, the paper supply situation having deteriorated, it has become necessary to ask correspondents again to accept a limitation on the length of letters submitted for publication. Accordingly, contributors to our Correspondence Columns are requested to note that, until further intimation is made, their communications must not exceed 350 words.

* * * * *

LIVING ABORTUS VACCINES

Sir,—I have read with interest the "Sale Rules Relating to Contagious Abortion" appearing in your issue of 23rd inst.

As I am making arrangements for the export of cattle to S. Rhodesia when shipping facilities are available, I have given instructions to my agents not to purchase or despatch any animal previously vaccinated with the "living abortus vaccine, strain 19" which, I gather from experimental records and reports, may become exalted in virulence in certain animals or may "mask" superimposed natural infection. In either case the "reactor" might be regarded as a "carrier" of virulent organisms and a possible source of danger, and as such might be rejected on arrival at its destination.

If these objections are valid—and I shall be delighted to learn that they are not—may they not apply to animals inoculated with living attenuated vaccines, in this country? May not such animals, especially those which become infected with a virulent organism when the vaccine reaction is declining, become "carriers" of virulent infection; and until contagious abortion becomes a notifiable disease and vaccination or some other form of protection is made compulsory and universal, may they not convey the disease to untreated herds as did those inoculated with the so-called "live vaccine" which ultimately had to be withdrawn?

It may be well to recall the warning given by one of our greatest experts in a paper presented to the N.V.M.A. in 1921. He wrote "At best vaccination (with the 'live vaccine') suppresses losses due to abortion by continually keeping alive infection." Unfortunately his warning was ignored, but it "holds good" even to-day.

Yours faithfully,

Little Common, Sussex. LL. E. W. Bevan.
March 31st, 1946.

RESOURCES OF THE PROFESSION FOR SPECIALIZED WORK

Sir,—I wish to draw the attention of members of the profession to an article in the *Farming News* of February 8th under the heading "Twixt Tay and Tweed," where a description is given of proposed research work into the diseases of hill sheep, particularly deficiency and tick-borne conditions. This is not to be done by the veterinary profession but by the North, West and East of Scotland Agricultural Colleges. This comes as a shock to members of the profession in remote places and my object in writing this letter is to draw attention to the matter and ask why such a highly specialized activity as veterinary research is being carried out by laymen? In the colonies, acute and prolonged staff shortage may lead to the same phenomenon, and it seems to me that the probable cause is lack of available professional men with the requisite training. Surely the remedy is to push on with schemes for the improvement of the colleges, for the production of more graduates to cope with the required work and to enlist the aid of the universities on a larger scale than proposed in the Loveday Report, which falls short of present necessity. In the eyes of the public at home, the veterinary profession is the private practitioner and unfortunately the profession is regarded as at best semi-scientific. When I am on leave, it is often that I am in company which is not aware of my profession, only that I am somebody on leave from the colonies, and this has given me opportunities to hear what informed people in agricultural circles do think of the profession and what I have heard has somewhat disturbed my equanimity. It was what I heard outsiders say about the profession that made me study the question and support the Loveday Report as far as it goes and it should go much further. Here is an example of specialized work waiting to be done, quite obviously no veterinary surgeons of the requisite training available and yet some of the leading members of the profession are still indulging in satisfied complacency about the education in veterinary colleges, whereas such facts prove that the colleges are too small and too inadequate for the tasks which the profession ought to be tackling and, owing to the wasted years, I fear it will be long before the leeway is made up. Unless the profession as a whole girds up its loins, realizes that vital specialized work is being done by others and that it is primarily our own fault for being unprepared, then it is possible we may sink to the level of hewers of wood and drawers of water in our own speciality, but such work as described in the *Farming News* is essential, and if there are no veterinarians available to do it then somebody else has to have a try.

Yours faithfully,

J. L. Stewart.

Department of Animal Health,
Pong-Tamale,
P.O. Box 32, Tamale,
Northern Territories, G.C.W.A.

March 8th, 1946.

[Mr. Stewart's introductory reference to the Agricultural Colleges is based on a misapprehension, as there are at least two veterinary surgeons attached to each of the Scottish Agricultural Colleges who will play a prominent part in the planning and carrying out of much of the research mentioned in the article in the *Farming News* to which Mr. Stewart refers.—*Editor.*]

* * * * *

MILK LOSS THROUGH CATTLE DISEASE

Sir,—The following newspaper cutting headed "Why We Lose Milk" (*Evening News*, March 16th) has been brought to my notice:

"Dr. W. R. Wooldridge, one of Britain's leading veterinary experts, estimated yesterday that dairy farmers are losing from three major cattle diseases 200,000,000 gallons of milk a year. This is equal to 13 weeks' allowance for everybody in the country."

Three questions, at least, of major importance to the profession emerge, I submit, from the words used in it:—

1. What really accurate data are available at present for computation of the alleged economic loss sustained by the public?

2. What valid argument can be brought forward to prove that the demand for milk on the part of the public would be satisfied to the extent implied if the "three major diseases" were actually totally eradicated?

3. That, for very many reasons, the eradication of those diseases, as well as all other diseases, from our dairy stock is most highly desirable, is beyond question: but, at the present moment, who or what is to be blamed for failure to achieve that particular objective?

Much has been said and written recently, it is acknowledged, on and around these questions. Nowhere, however, it is suggested have there been full answers supplied which will bear a searching examination of the bases upon which they are furnished.

Yours faithfully,

J. T. Edwards.

21, Gower Street, W.C.1.
March 21st, 1946.

THE SIGNIFICANCE OF THE FRENCH ACADEMY OF MEDICINE ELECTION

Sir,—In thanking you for the words you have so happily chosen to express your appreciation of the unexpected honour conferred upon me by the French Academy, may I add just a few words to say what I conceive it to mean at this time?

Good fortune enabled me during the early part of my career to be placed in circumstances in which I came to understand and feel what there is that is generous and genuine in the nature of the French people in general, and of the distinguished men there in our profession in particular. Looking back, I can well corroborate the conclusion drawn by the historian that it was natural, when the time came about for that event during the 18th century, that it should be upon French soil that the seed of modern veterinary education as we now know it should find conditions most favourable for germination. It then spread, as we well know, elsewhere, and into this country. For long years it was we who profited from the vigorous growth of the original plant. Now, in our turn, appreciating, as they do and with real pride, the sturdy growth of the transplant upon British soil, it is our bounden duty on our part, during this time of conflict and change, when the parent has been shaken to its roots and suffered so much, to tend it back in the way we best can, that it may again, and as before, bear fruit in abundance.

Yours faithfully,

J. T. Edwards.

March 28th, 1946.

* * * * *

THE EVIL OF NATIONALIZATION—AN APPEAL

Sir,—As all true democratic people hoped and expected, the medical profession is making a firm stand to counter the State Control Schemes that this Government would force upon them and the unfortunate public. In its fight, the B.M.A. appeals for individual donations from its members in order to counter the evil of nationalization.

So far, the veterinary profession has not been labelled for nationalization, but if the medical profession should lose its fight, then, without any doubt, we should be attacked, and with the medical profession defeated, what chance of survival should we stand on our own?

It is up to us, therefore, as a profession, to give active support to our sister profession. Money given to the B.M.A. in its battle for existence, would be wisely invested if the fight is won, and useless to us if lost, for it would doubtless be taken from us then by other means.

I make this appeal to every branch of the profession, the R.C.V.S. and the N.V.M.A., etc., seriously and urgently to study this problem. Delay may be fatal. We must act now and carry the fight to the enemy.

Yours faithfully,

Robert S. Townson.

St. Austell,
Cornwall.
March 11th, 1946.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange•	Sheep Scab	Swine Fever
March 1st to 15th, 1946 ...	5	1	—	9	21
Corresponding period in—					
1945 ...	5	14	1	13	56
1944 ...	8	10	1	4	25
1943 ...	18	1	1	10	17
Total Jan. 1st to Mar. 15th, 1946 ...	26	18	4	33	133
Corresponding period in—					
1945 ...	27	51	3	29	229
1944 ...	54	13	4	50	122
1943 ...	76	10	3	74	103

Note.—The figures for the current year are approximate only.
• Excluding outbreaks in Army Horses.